# THE LANCET.

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# A Lecture
ON
# EYE SYMPTOMS AND THE EARLY DIAGNOSIS OF DISEASES OF THE NERVOUS SYSTEM.

*Delivered at the Glasgow Western Medical School*

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SURGEON TO GLASGOW EYE INFIRMARY; LECTURER ON OPHTHALMOLOGY IN THE GLASGOW WESTERN MEDICAL SCHOOL.

GENTLEMEN,—The student and the practitioner cannot be too strongly impressed with the fact that the recognition and correct interpretation of eye symptoms very frequently afford the key to the diagnosis of many general diseases.

## RELATIONS OF OPHTHALMOLOGY AND GENERAL MEDICINE.

There is too great a tendency, especially in this age of specialism, to regard the eye as one of those organs of the body which must be handed over to the exclusive care of the specialist, and hence sufficient care is frequently not bestowed by the general practitioner on the careful observation of eye symptoms as an aid to general diagnosis. Now whilst with the rapid growth of medical knowledge, and the increasing complexity of instruments and apparatus requiring special technical training and skill, there must inevitably follow the increase of specialism, still there is a danger of losing sight of the unity of medical science.

We must never lose sight of the fact that the eye is a part of the human organism sharing in its fluctuations of health and often manifesting the leading characteristics and idiosyncrasies of the organism as a whole. Hence, the ophthalmic surgeon from consideration of the eye symptoms alone can frequently neither form his diagnosis nor formulate his treatment, but must be guided in many cases by reference to the general condition of the patient and of his other organs. Similarly the physician will often find in the careful observation of the eye the symptom or symptoms which will enable him to arrive at a correct diagnosis of the disease of some other organ from which the patient may be suffering. In fact, special knowledge and the general practice of medicine are so closely and intimately allied to each other, that you cannot divorce the one from the other.

In no department is the relationship and mutual interdependence of ophthalmology and general medicine seen more clearly than in the important part frequently played by eye symptoms in the diagnosis of diseases of the nervous system. Two clinical facts render this connexion specially important—viz., that eye symptoms are very frequent in the course of diseases of the nervous system, and that they are often amongst the earliest symptoms of the disease. Hence they frequently afford the first unequivocal manifestations of nervous disease, and may lead directly to the detection of grave organic diseases of the nervous system, which had hitherto been unsuspected. At a period when all the other symptoms are indefinite and obscure, the recognition and correct interpretation of the eye symptoms may enable the physician to diagnose disease of brain or spinal cord much earlier than would have been possible from consideration of the other symptoms alone. Many diseases of the nervous system are slow in their development, insidious in their onset, and with few striking early symptoms, so that early diagnosis is often a problem of great difficulty. Yet in no class of diseases is early diagnosis of more importance, and this is especially true of that large group which is of specific origin. In many of these cases successful treatment is only attainable when the diagnosis is made at an early period in the development of the disease, before extensive organic changes have occurred. Hence the enormous importance to the practitioner of a knowledge of the eye symptoms, which so frequently afford the means of a positive diagnosis, long before it could be made from consideration of the other symptoms alone.

Here I would direct attention to the fact that the eye symptoms must be carefully looked for. The patient may complain of no visual disturbance, and yet on careful examination of the eye indubitable symptoms may be present having a most important bearing on the case. A patient may have very definite pathological changes at the fundus of the eye, and yet there may be no perceptible falling off in acuteness of vision, and no subjective symptoms. Hence in every case of disease of the nervous system the eye ought to be carefully examined as a matter of routine, even in the complete absence of any subjective symptom.

## OCULAR PARALYSES.

Ocular paralyses are frequently of the very greatest importance in the diagnosis of diseases of the brain and spinal cord. This is a very large and complex subject, and I intend simply to touch on it. The larger my experience becomes, the more I am impressed with the fact that in every case of ocular paralysis the condition of the nervous system as a whole ought to be carefully examined, as the ocular palsy will frequently be found to be the first striking symptom of some general disease of the nervous system which, from its insidious and gradual onset, has not yet obtruded itself on the patient's notice, but of which unequivocal evidence may be found on careful examination.

In cerebral disease the occurrence of ocular paralysis may be, and often is, the first symptom which calls our attention to the true nature of the disease from which the patient is suffering. Take, for example, meningitis in children, which often arises in a very gradual and insidious way, and hence is very difficult to recognise with any degree of certainty at the outset. The little patient may complain only slightly of headache, and if the temperature be taken it may be found slightly elevated. But we are familiar in children with symptoms of this kind due to dyspeptic derangement, which soon pass away under the influence of gentle laxatives and simple diet. If, however, we find the child suddenly develop a squint, which on examination is found to be due to paralysis of an ocular muscle, then it gives a very different significance to the headache of which the child is complaining. It tells us that the headache is due to organic disease of the brain or of its membranes, and hence is no longer to be regarded as due to some functional disturbance.

A very excellent illustration of the great value of ocular paralysis as a factor in diagnosis is to be found in the transient ocular palsies which are frequently met with in the early and pre-ataxic stages of locomotor ataxia. There is another form of ocular paralysis, permanent in duration, partial or complete, which, however, is more commonly met with in the later or ataxic stages of the disease, when the diagnosis has been made evident from the presence of prominent symptoms. The transient ocular palsies, however, are most frequently seen in the very early stages of the disease, and not infrequently lead to its detection. These transient palsies may attack any ocular muscle, but most frequently the external rectus. These attacks of palsy last generally only for a very short period—a few hours, days, or weeks, disappearing spontaneously. The symptom observable by the patient is diplopia. Hence it should be an invariable rule in all cases of transient diplopia, particularly if this is recurrent, to strongly suspect the probability of the early stage of locomotor ataxia. No ataxia may be present at this stage. But examine carefully the condition of the knee-jerks, and the pupillary reactions to light and accommodation. It will not infrequently be found that these transient attacks of diplopia are associated with loss of knee-jerks and with Argyll Robertson pupillary phenomena, with probably a history of pains in body and limbs often described as rheumatic. The diagnosis is then clear, and the eye symptoms have led directly to it.

## PUPILLARY SIGNS.

The careful observation of the pupils as regards equality or inequality, size and movements, often affords great assistance in the early diagnosis of nervous disease. The best illustration of this is the Argyll Robertson pupillary phenomenon, where the pupillary reaction to light is lost, whilst the contraction associated with convergence is preserved. Although not pathognomonic of locomotor ataxia, being sometimes met with in general paralysis of the insane and in cases of cerebral syphilis, it is frequently a very valuable aid to the early diagnosis of this condition. It is a very frequent symptom according to Sir W. R. Gowers, being present in four-fifths of all cases. What gives it special importance is the fact that it is so frequently an early symptom, being often present in the pre-ataxic stage of the disease, when every symptom is of the highest importance for the diagnosis.

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# A Lecture
ON
# EYE SYMPTOMS AND THE EARLY DIAGNOSIS OF DISEASES OF THE NERVOUS SYSTEM.

*Delivered at the Glasgow Western Medical School*

BY JAMES HINSHELWOOD, M.A., M.D. GLASG.,

SURGEON TO GLASGOW EYE INFIRMARY; LECTURER ON OPHTHALMOLOGY IN THE GLASGOW WESTERN MEDICAL SCHOOL.

GENTLEMEN,—The student and the practitioner cannot be too strongly impressed with the fact that the recognition and correct interpretation of eye symptoms very frequently afford the key to the diagnosis of many general diseases.

## RELATIONS OF OPHTHALMOLOGY AND GENERAL MEDICINE.

There is too great a tendency, especially in this age of specialism, to regard the eye as one of those organs of the body which must be handed over to the exclusive care of the specialist, and hence sufficient care is frequently not bestowed by the general practitioner on the careful observation of eye symptoms as an aid to general diagnosis. Now whilst with the rapid growth of medical knowledge, and the increasing complexity of instruments and apparatus requiring special technical training and skill, there must inevitably follow the increase of specialism, still there is a danger of losing sight of the unity of medical science.

We must never lose sight of the fact that the eye is a part of the human organism sharing in its fluctuations of health and often manifesting the leading characteristics and idiosyncrasies of the organism as a whole. Hence, the ophthalmic surgeon from consideration of the eye symptoms alone can frequently neither form his diagnosis nor formulate his treatment, but must be guided in many cases by reference to the general condition of the patient and of his other organs. Similarly the physician will often find in the careful observation of the eye the symptom or symptoms which will enable him to arrive at a correct diagnosis of the disease of some other organ from which the patient may be suffering. In fact, special knowledge and the general practice of medicine are so closely and intimately allied to each other, that you cannot divorce the one from the other.

In no department is the relationship and mutual interdependence of ophthalmology and general medicine seen more clearly than in the important part frequently played by eye symptoms in the diagnosis of diseases of the nervous system. Two clinical facts render this connexion specially important—viz., that eye symptoms are very frequent in the course of diseases of the nervous system, and that they are often amongst the earliest symptoms of the disease. Hence they frequently afford the first unequivocal manifestations of nervous disease, and may lead directly to the detection of grave organic diseases of the nervous system, which had hitherto been unsuspected. At a period when all the other symptoms are indefinite and obscure, the recognition and correct interpretation of the eye symptoms may enable the physician to diagnose disease of brain or spinal cord much earlier than would have been possible from consideration of the other symptoms alone. Many diseases of the nervous system are slow in their development, insidious in their onset, and with few striking early symptoms, so that early diagnosis is often a problem of great difficulty. Yet in no class of diseases is early diagnosis of more importance, and this is especially true of that large group which is of specific origin. In many of these cases successful treatment is only attainable when the diagnosis is made at an early period in the development of the disease, before extensive organic changes have occurred. Hence the enormous importance to the practitioner of a knowledge of the eye symptoms, which so frequently afford the means of a positive diagnosis, long before it could be made from consideration of the other symptoms alone.

Here I would direct attention to the fact that the eye symptoms must be carefully looked for. The patient may complain of no visual disturbance, and yet on careful examination of the eye indubitable symptoms may be present having a most important bearing on the case. A patient may have very definite pathological changes at the fundus of the eye, and yet there may be no perceptible falling off in acuteness of vision, and no subjective symptoms. Hence in every case of disease of the nervous system the eye ought to be carefully examined as a matter of routine, even in the complete absence of any subjective symptom.

## OCULAR PARALYSES.

Ocular paralyses are frequently of the very greatest importance in the diagnosis of diseases of the brain and spinal cord. This is a very large and complex subject, and I intend simply to touch on it. The larger my experience becomes, the more I am impressed with the fact that in every case of ocular paralysis the condition of the nervous system as a whole ought to be carefully examined, as the ocular palsy will frequently be found to be the first striking symptom of some general disease of the nervous system which, from its insidious and gradual onset, has not yet obtruded itself on the patient's notice, but of which unequivocal evidence may be found on careful examination.

In cerebral disease the occurrence of ocular paralysis may be, and often is, the first symptom which calls our attention to the true nature of the disease from which the patient is suffering. Take, for example, meningitis in children, which often arises in a very gradual and insidious way, and hence is very difficult to recognise with any degree of certainty at the outset. The little patient may complain only slightly of headache, and if the temperature be taken it may be found slightly elevated. But we are familiar in children with symptoms of this kind due to dyspeptic derangement, which soon pass away under the influence of gentle laxatives and simple diet. If, however, we find the child suddenly develop a squint, which on examination is found to be due to paralysis of an ocular muscle, then it gives a very different significance to the headache of which the child is complaining. It tells us that the headache is due to organic disease of the brain or of its membranes, and hence is no longer to be regarded as due to some functional disturbance.

A very excellent illustration of the great value of ocular paralysis as a factor in diagnosis is to be found in the transient ocular palsies which are frequently met with in the early and pre-ataxic stages of locomotor ataxia. There is another form of ocular paralysis, permanent in duration, partial or complete, which, however, is more commonly met with in the later or ataxic stages of the disease, when the diagnosis has been made evident from the presence of prominent symptoms. The transient ocular palsies, however, are most frequently seen in the very early stages of the disease, and not infrequently lead to its detection. These transient palsies may attack any ocular muscle, but most frequently the external rectus. These attacks of palsy last generally only for a very short period—a few hours, days, or weeks, disappearing spontaneously. The symptom observable by the patient is diplopia. Hence it should be an invariable rule in all cases of transient diplopia, particularly if this is recurrent, to strongly suspect the probability of the early stage of locomotor ataxia. No ataxia may be present at this stage. But examine carefully the condition of the knee-jerks, and the pupillary reactions to light and accommodation. It will not infrequently be found that these transient attacks of diplopia are associated with loss of knee-jerks and with Argyll Robertson pupillary phenomena, with probably a history of pains in body and limbs often described as rheumatic. The diagnosis is then clear, and the eye symptoms have led directly to it.

## PUPILLARY SIGNS.

The careful observation of the pupils as regards equality or inequality, size and movements, often affords great assistance in the early diagnosis of nervous disease. The best illustration of this is the Argyll Robertson pupillary phenomenon, where the pupillary reaction to light is lost, whilst the contraction associated with convergence is preserved. Although not pathognomonic of locomotor ataxia, being sometimes met with in general paralysis of the insane and in cases of cerebral syphilis, it is frequently a very valuable aid to the early diagnosis of this condition. It is a very frequent symptom according to Sir W. R. Gowers, being present in four-fifths of all cases. What gives it special importance is the fact that it is so frequently an early symptom, being often present in the pre-ataxic stage of the disease, when every symptom is of the highest importance for the diagnosis.

The pupillary movements should therefore be examined with great care in every nervous case.

### NYSTAGMUS.

Nystagmus is a not infrequent symptom of organic disease of the nervous system. By nystagmus is meant rhythmical movements of the eyes, involuntary, frequent, and generally bilateral, which are produced by alternating contractions in opposing muscles. This phenomenon occurs frequently in local affections of the eye which disturb vision, in albinism, and in miners. But the fact of importance to us is that it occurs in diseases of the nervous system of the most varied seat and character. It is usually present in disseminated sclerosis and in hereditary ataxia (Friedreich's disease), but not in locomotor ataxia. It occurs in many diseases of the brain, diffuse and focal, and it is especially common in tumours of the cerebellum. Its diagnostic value is chiefly in excluding mere functional disorder and pointing to organic disease of the nervous system.

It is of special value in the diagnosis of disseminated sclerosis, where it frequently occurs as an early symptom, and since the early diagnosis of this disease is often very difficult, it is frequently of great importance in calling attention to the true nature of the symptoms at an early stage. I was consulted a few years ago by a young lady, who complained that whenever she looked at anyone on the opposite side of the street everything danced about and she could not see properly. On examining her eyes I observed that on lateral movements of the eyes distinct nystagmus was present, and this explained her ocular symptom. Suspicion being aroused by this symptom, her knee-jerks were examined and found to be very much exaggerated, with slight ankle clonus. She had of late complained of weakness in her lower limbs, and having become very emotional her symptoms had been regarded as hysterical. The recognition of the lateral nystagmus, associated with the exaggerated knee-jerks, gave the clue to the true diagnosis of the condition. This diagnosis was substantiated by the subsequent development of tremor of the head and neck and of the upper limbs on exertion, speech disturbances, and other marked symptoms of disseminated sclerosis.

### VISUAL FIELDS.

The examination of the visual fields is often of very great importance in the diagnosis, and especially in the early diagnosis, of diseases of the brain. In many cases the alterations in the visual fields may be the very first indubitable symptom of cerebral disease, and hence its recognition is necessary for the early diagnosis of the condition. The best example of the direct bearing of defects in the visual field on the problems of medical diagnosis is seen in the case of lateral homonymous hemianopsia. By a lateral homonymous hemianopsia is meant the loss of similar halves of each field of vision—i.e., the loss of either both right halves or both left halves. When such a defect is present, it means the existence of a lesion in some part of the optic tract above the chiasma or in the visual centre itself in the occipital lobe. Loss of the left halves of the visual fields—i.e., left homonymous hemianopsia—corresponds to a lesion on the right side of the brain; and loss of the right halves—i.e., right homonymous hemianopsia—to a lesion on the left side. The recognition of such a hemianopsia is absolute proof of an intracranial lesion, and is thus of great diagnostic importance. I could quote from my own experience many examples of the importance of the recognition of this visual defect, but will content myself with one.

The patient, aged 56 years, was sent to me by her medical attendant to see if glasses would not improve the defective vision of which she had been complaining for several weeks. The patient complained greatly of running against people in the street and of tumbling over chairs and objects in her own house. On examination it was found that the left halves of both visual fields were lost—i.e., the patient had left homonymous hemianopsia. She had suffered greatly for some time from insomnia and headaches. I wrote to her medical attendant and pointed out that the left homonymous hemianopsia indicated the existence of a lesion on the right side of the brain, interrupting the right optic tract or involving the visual centre in the right occipital lobe, and that the insomnia and headaches were no doubt referable to this cause. I never saw the patient again, but a few weeks thereafter I heard from her medical attendant that paralysis of the left arm and left leg had set in, pointing to a further extension of the lesion on the right side of the brain to which I had previously called attention. The patient gradually sank, became comatose, and ultimately died.

Here, then, the recognition of the true character of the visual defect led directly to the diagnosis of a cerebral lesion previously unsuspected, and enabled us to say that the insomnia and the headache were not due to trifling functional disorder, but were the accompaniments of grave organic cerebral disease, which manifested itself later by indubitable symptoms.

### OPTIC NEURITIS.

The importance of a routine examination of every case of disease of the nervous system with the ophthalmoscope cannot be too strongly emphasised. By routine examination I mean that it should be made a part of every examination, just like the examination of the patient's reflexes even in the complete absence of any visual complaints by the patient. A patient may have a well-marked double optic neuritis without being aware of any subjective visual symptom, as there may be no perceptible falling off in the visual acuteness, or at least without its being appreciable to the patient. I have repeatedly found optic neuritis present in both eyes, although the patient assured me there was nothing wrong with his sight. Nor should one examination suffice, but the ophthalmoscopic examination should be repeated at intervals, so that a continuous watch is kept on the fundus of the eye and any changes at once observed and noted.

Double optic neuritis is one of the most frequent symptoms of cerebral disease. Out of 24 consecutive cases examined by me in the Glasgow Western Infirmary, I found neuritis of more or less intensity present in 13. The two cerebral conditions most frequently associated with optic neuritis are cerebral tumours and cerebral meningitis. Out of 18 consecutive cases of cerebral tumour I found double optic neuritis present in 10. Most statistics give a much more frequent occurrence of optic neuritis, and Sir W. Gowers says that in his own experience neuritis occurs in about four-fifths of the cases of cerebral tumour. There is no special period at which the optic neuritis appears during the growth of the tumour, but as a rule it is not an early symptom. There are exceptions to this, however, and it should be borne in mind that sometimes optic neuritis may be amongst the very earliest symptoms of intracranial tumour.

The most striking example of this in my experience was a case seen by me when acting at the outdoor dispensary of the Western Infirmary. The patient was a man, apparently in robust health, who had been greatly troubled with giddiness, which had become so bad that he had to give up work and seek advice at the infirmary. The giddiness, or rather unsteadiness, was of a peculiar type, with a great tendency to fall backwards. On cross-questioning him he mentioned that his eyesight had been somewhat affected since the giddiness began. On ophthalmoscopic examination he was found to have double optic neuritis of the intense type, with greatly swollen disc, hæmorrhages, and exudations, the form commonly associated with cerebral tumour. There were no other symptoms, subjective or objective, to be made out on the most careful examination. The occurrence of the optic neuritis made it at once apparent that the giddiness was probably due to intracranial organic disease, and from the character of the neuritis most probably to a tumour. The patient died in the Western Infirmary about six months afterwards, and at the necropsy a cerebellar tumour was found. Such an early occurrence of optic neuritis is in my experience exceptional; still it is important to know that it sometimes occurs as one of the earliest symptoms of cerebral tumour.

Next to cerebral tumour, optic neuritis is most frequently associated with meningitis, and in these cases, often very insidious at their onset, the recognition of optic neuritis is often the first indubitable symptom of intracranial disease. I have seen a large number of cases, both in hospital and private practice, of children who had suffered less or more from headache, and were sent to have their eyes examined, in the belief that the headache was probably due to eye-strain. On examination the detection of double optic neuritis at once revealed the cause of the headache. In some cases there was a history of occasional vomiting, and in some slight elevation of temperature. The general symptoms, however, were so slight as to be misleading, until

the detection of the double optic neuritis revealed the gravity of the condition.

### HYPERÆMIA OF OPTIC DISCS.

Apart from optic neuritis, however, there is another condition, not so well known, which is frequently a valuable aid to the early diagnosis of meningitis—viz., hyperæmia of the optic discs and distension of the veins. The colour of the optic discs in conditions of health is very variable, and there is no strictly normal standard. In one patient the discs may be very pale, and in another distinctly pinkish, and yet this may be the normal character of each.

When the hyperæmia is slight its pathological character can be recognised only by the fact of its having developed under observation. In all cases of suspected meningitis the discs ought to be watched carefully from day to day as a part of the routine observation of the patient. If the discs are observed to become more hyperæmic, as evidenced by the increased redness or by the fact that a large number of previously invisible little vessels become visible upon the disc, then this is a sign of great significance, and particularly if this hyperæmia of the disc is accompanied by distension of the retinal veins. Hyperæmia of the discs and neuritis are much more frequent accompaniments of meningitis at the base than at the vertex, and hence these symptoms are met with most frequently in tubercular meningitis. Hyperæmia of the discs with distension of the veins is often an early sign, and I think sufficient value has not been attached to it as a sign of intracranial disease. It is met with, not only in tumour and meningitis, but in various pathological conditions giving rise to increase of intracranial pressure—e.g., in cerebral abscess and hydrocephalus.

### ATROPHY OF OPTIC NERVES.

Atrophy of the optic nerves is so frequently associated with degenerative disease of the central nervous system, that in every case of optic atrophy the patient's reflexes ought to be very carefully examined with a view to ascertaining their condition. If this be done as a matter of routine, it will lead to the diagnosis of many cases of nervous disease at a much earlier period than would have been possible from the other nervous symptoms alone. Optic atrophy is not only a very frequent symptom, but it is often a very early symptom of degenerative disease of the nervous system. The two diseases in which it is most frequently met with are locomotor ataxia and disseminated sclerosis. If the patient's knee-jerks are examined and found to be absent the probability is the case is one of locomotor ataxia, but if they are exaggerated, and especially if accompanied by ankle clonus, the case is probably one of disseminated sclerosis.

In locomotor ataxia optic atrophy is generally an early symptom, being usually present before the muscular incoördination is developed, and therefore frequently leads directly to the diagnosis of this grave nervous disease long before the obtrusive symptoms of the spinal lesion have manifested themselves, and when its presence has been hitherto entirely unsuspected. When the muscular incoördination is present the diagnosis is easy, but in the early stage before its appearance the initial symptoms may have been so trifling, such as the lightning pains in the legs or feeling of contraction round the waist, that their true significance has not been recognised.

It is important to bear in mind, also, that it is a matter of clinical observation that when the eye symptoms appear early in locomotor ataxia, the spinal symptoms are exceedingly slow in development, and even when they do appear they seldom manifest the intensity met with in other cases. I have always made it a routine practice at the Glasgow Eye Infirmary and in private carefully to test the reflexes of every patient with optic atrophy, and have been struck with the great frequency with which the knee-jerks are diminished or entirely absent. In comparatively few of these cases had there been any suspicion of locomotor ataxia, owing to the absence of symptoms of incoördination, so that the importance of optic atrophy as an aid to the early diagnosis in these cases cannot be exaggerated.

Next to tabes, disseminated sclerosis is the nervous disease most frequently associated with optic atrophy. Here also the optic atrophy is frequently an early symptom occurring long before the muscular tremors and other characteristic symptoms appear. I have seen a considerable number of cases where optic atrophy was associated with increasing weakness of the lower limbs and greatly exaggerated knee-jerks with or without ankle clonus, and which I regarded as cases of optic atrophy dependent upon degenerative disease of the spinal cord, probably disseminated sclerosis. In most of these cases kept under observation the further development of other symptoms later confirmed the diagnosis.

In the early stage of disseminated sclerosis there is often great difficulty in determining as to whether the initial symptoms, often of a transitory character, are hysterical or due to organic disease. The recognition of atrophic changes in the optic discs is often, therefore, most helpful in enabling the physician to arrive at a correct diagnosis even at the early period of the disease.

### CONCLUSION.

These remarks are fragmentary, and only touch upon the borders of a subject which is very extensive, complex, and interesting. I have only selected a number of examples showing the intimate connexion which frequently exists between the eye symptoms and the diagnosis of diseases of the nervous system, and I have selected those which are specially important as bearing on the early diagnosis. My object has been to direct special attention to the fact that by careful and systematic observation of the eye symptoms in all cases of disease of the nervous system the physician is able in many cases to arrive at a diagnosis at a much earlier period than would be possible from consideration of the other symptoms alone.

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# SEPTICÆMIA WITH LOCAL ENDOCARDIAL LESION:

## WITH RECORDS OF NINE CASES.

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THIS group of cases of septicæmia is interesting and educative both to the general practitioner and to the hospital physician. Of the nine cases included, eight were patients in Professor W. K. Hunter's wards in the Glasgow Royal Infirmary, while the remaining case was seen by me in private with her medical man on two occasions. All the cases proved fatal, and in all the hospital cases a post-mortem examination was obtained. In seven cases an infective lesion on the endocardium was diagnosed during life, and this was afterwards verified in six, while in the remaining two cases such a lesion was found post mortem, though during life there was no evidence of its presence. In only one case—No. 6—was there any local focus of suppuration or demonstrable cause which might be clearly regarded as the starting-point of the disease.

Cases of infective or malignant endocarditis are now recognised to be really varieties of acute septicæmia, often cryptogenetic, with localisation on the endocardium, though the symptoms are not necessarily those of the local lesion. The condition is one which is undoubtedly much more frequent than the records show, as ofttimes there is no symptom or physical sign to suggest such a lesion. The more acute forms are most often recognised, but the more chronic types may only be recognised very late in the course of the disease, or may defy diagnosis to the end.

Text-books have great difficulty in portraying anything like a complete clinical picture of the disease—its mode of onset, its symptoms, and its course are so varied. The text-book classification recognises various distinct types. Two special types are described, the typhoid and the septic, the former being the much more common. A third, and much less frequent type, is mentioned where the predominant symptoms are meningeal. In all these the cardiac symptoms are in the background. There is in addition a large group—the cardiac—where the cardiac features are pronounced, and often these prove to be the most chronic and most difficult to recognise as malignant.

The available literature on the subject from the clinical side is not extensive, but undoubtedly there are many intermediate types of this protean disease. However much the cases may vary in type, mode of onset, and course, the ending

seems to be almost uniformly fatal, as up to the present time there are only two recorded cases of recovery from this disease. The great gravity of the condition, therefore, increases the necessity for adding to the clinical records of these cases, as it is only by such records that we can hope to surmount the difficulties which so often beset the diagnosis of this condition.

The cases included in this series illustrate several types of the disease, and most of them display points of special interest. Some were very acute, others ran a more chronic course, the longest duration under observation being 65 days, though in this case the condition was probably present for some considerable time before admission to hospital.

With regard to age-incidence and sex, the series presents no unusual features. The youngest and most acute case was 14, and the oldest 48 years of age. The ages of the others ranged from 21 to 36 years. The sexes were almost equally divided, five being males and four females.

*Relation to Rheumatism and Other Diseases.*

Statistics go to prove that in almost 50 per cent. of infective endocarditis cases there is a history of acute or subacute rheumatism or of chorea, though the interval between the occurrence of these diseases and the onset of the infective condition may be a matter of years, and possibly years of good health. This is the usual finding, but very occasionally cases are found where a rheumatic seems to pass directly into an infective endocarditis. In the remainder of cases there is no history of rheumatism or rheumatic manifestations at any time.

In the present series there was in two cases a history of rheumatism which left its mark on the endocardium—viz., in Case 2 two years before, and in Case 4 about 13 years before the onset of the fatal illness. In Case 7 there was a history of chorea three years before, but this apparently did not cause endocarditis, or, at least, such as to give rise to signs or symptoms. In the remaining six cases there was no history of rheumatism, or manifestations to suggest rheumatism.

The relation of rheumatism and rheumatic fever to malignant endocarditis has been the subject of considerable controversy. It has been generally accepted that cardiac rheumatism predisposes to infective endocarditis by damaging the valves, thus rendering them more liable to a secondary infection. Some writers expressed the belief that rheumatism could cause directly and unaided an infective lesion.

Poynton and Paine, whose investigations into the pathogenesis of rheumatic fever are well known, have in this connexion carried out extensive researches and their results are very convincing. They hold that a rheumatic endocarditis is not always benign, and does not always require an added infection to produce a progressive lesion. The smouldering activity of rheumatic processes is well known, and it may well be that, in the damaged valves, latent micrococci, under circumstances of increased virulence, produce a progressive change in the lesion. By inoculation experiments with the diplococcus rheumaticus, isolated from cases of rheumatic fever, Poynton and Paine have succeeded in producing malignant endocarditis in the rabbit, without previous injury to the valves. In others they have produced rheumatic fever with the same organism; while by another experiment they have shown that a first inoculation may produce a slight valvular thickening, and a second cause death from malignant endocarditis.

These results point fairly conclusively to the fact that we must recognise a group of cases of malignant endocarditis which is rheumatic in nature, though meantime we have no indication how comprehensive this group may prove to be. Such results are quite in accord in certain cases with our clinical experience, and serve to explain such cases as the second of this series in which the rheumatic history plays such a strong part. Histological evidence of a directly rheumatic origin has been sought for by Coombs in a short series of cases recently, but none was found even in those cases in which, clinically, the rheumatic factor was most in evidence.

As regards relation to other diseases, in two of this series there was a history of influenza, in both of which the patient never regained good health after the attack. In one there was a history of pleurisy a year before, and in two of pneumonia, with which the endocarditis was closely, and almost directly, associated. In the remaining case there was no history of any preceding disease.

*Diagnosis.*

From a diagnostic point of view three cardinal signs may be recognised: (1) The presence of valvular disease as determined by cardiac examination; (2) the occurrence of embolism; and (3) the discovery of micro-organisms in the blood stream. If these three signs occur together a confident diagnosis of infective endocarditis may, in the great majority of cases, be made, although often the diagnosis must be made on much more slender foundation. Let us consider these signs more fully, and in the light of the present series of cases.

1. *The presence of valvular disease.*—It is obvious that without this sign a diagnosis cannot be made. In the great majority of cases signs of valvular disease are present from the onset. In some, indeed, there has been knowledge of a pre-existing valvular lesion. In others the valvular lesion develops under observation—it may be late in the course of the disease; while in a very small minority of cases no evidence is found during life of valvular mischief. In hospital practice it is difficult to establish the presence of pre-existing valvular disease, or, in cases where it has been known to be present, its probable duration. In this series such a lesion was present in three, probable in two, and absent in four cases. In one case—No. 1—there was a congenital lesion, and in such cases there seems to be an undoubted predisposition to infection, probably due to the presence of chronic fibrous thickenings on the endocardium, so often associated with such a lesion. In two cases (Nos. 7 and 9) there was no evidence during life of a valvular lesion.

With regard to the valves affected by the disease, the most common finding was a combined lesion in the mitral and aortic valves (four cases), while a fifth showed, in addition, ulcerative changes in the tricuspid valve. The mitral valve was affected alone in one, and the aortic alone in two cases. Mural infection was found in three cases. In Case 5 numerous small aneurysms were found in the aorta.

In connexion with the cardiac examination, a much debated point in such cases is the diagnostic import of changes in the characters of the murmur or murmurs from day to day. Formerly this change was recognised as of great importance, but now such changes are known to occur at times in the course of an ordinary endocarditis. Perhaps a better diagnostic aid is the evidence of involvement of other valves than that originally affected—e.g., the signs of aortic insufficiency in a case where mitral disease was the original lesion—more especially when associated with changes in the size of the cardiac area occurring under observation. Such a change was found to a marked degree in at least three cases of this series.

2. *The occurrence of embolism.*—Probably in every case during its course embolism occurs in some part of the body, though its presence is, in many cases, not indicated during life, or only in such slight degree as to demand careful search. Embolism, causing symptoms, was present in a number of the cases of this series.

In the *spleen* the chief sign is enlargement, though often there is an acute hypochondriac or epigastric pain, and occasionally a friction sound heard over the enlarged organ. The difficulty here is that the enlargement produced by infarction may not be clinically definable, as it is now generally recognised that a spleen may be quite large yet not palpable. In only three cases of the present series was the spleen noted as palpable, yet it was found post mortem to be considerably enlarged in five.

*Kidney.*—Infarct here, though also common, is difficult to recognise clinically, as it may give but little indication. The characteristic sign is hæmaturia, but, as has been pointed out by Hale White, this may be so slight as to be only recognisable microscopically. The hæmaturia is frequently followed by albuminuria. An intermittent albuminuria in such cases is very suggestive of renal infarction. Cases 4 and 5 showed hæmaturia and albuminuria, but in none of the others was this noted at any time during observation, though in two renal infarct was found post mortem.

*Brain.*—Cerebral embolism is common, setting up various paralytic and irritative nervous disturbances. Two examples—Cases 4 and 7—occur in this series. In the former the patient was brought to hospital because of the loss of *power* on one side. It was a condition rather of hemiparesis than of hemiplegia, and it gradually passed off under observation, with complete restoration of power. In the latter a different

sequence of events occurred, as, without any previous warning of a paralytic or other nature, cerebral hæmorrhage occurred, causing repeated and severe convulsions, and death within a few hours.

In this series the only other definite evidence of embolism during life was the occurrence in Case 5 of petechiæ in the skin coming out characteristically in crops. In addition to purpura other skin lesions have been described, especially in the more chronic cases—viz., tender erythematous spots or nodules in the skin of the hands and feet. The occurrence of these has been emphasised by Osler as of strong diagnostic import, especially in the more chronic cases. In no case of the present series were they observed, though painful joints and painful swellings in the extremities occurred in several. These may, in all likelihood, in some cases, be the result of minute emboli.

3. *The presence of organisms in the blood stream.*—Though the presence of embolism, and especially multiple embolism, in association with a valvular lesion, affords strong presumptive evidence of an infective endocarditis—so much so that from this combination a diagnosis may, in many cases, be correctly made—the demonstration of organisms in the blood stream is necessary to establish the diagnosis. In making this statement it is essential to exclude all cases of directly rheumatic origin, as the diplococcus is not readily obtained by blood cultures. It is rather unfortunate that, in so many cases, this third sign should be so difficult to obtain. With improved technique, however, this difficulty should be, to a considerable extent, surmounted, and Horder, in an article on this subject, gives it as his opinion that in about 90 per cent. of cases it is possible to demonstrate by culture the presence of micro-organisms in the blood. My very limited experience of cultures in these and previous cases shows a much smaller percentage of success. In some cases, though negative at first, repeated blood cultures will at length yield a positive result, as notably in Case 1, but in others these prove negative to the end as in Case 2, though the conditions may be correctly diagnosed and later verified.

It is all important, from the point of view of possible specific treatment, that a positive culture should be obtained as early as possible in the course of the disease, hence there is urgent call for careful bacteriological examination of the blood whenever there is the slightest suspicion of infection. This should, if necessary, be repeated at intervals, as in some cases there is evidently a preceding stage, when the blood is quite or almost sterile, before the actual active septicæmic stage, when micro-organisms are present, and multiplying, in the blood. The accompanying table shows at a glance the results of blood cultures in the cases under consideration:—

*Table showing Results of Blood Cultures.*

| Case. | Duration of illness before positive culture. | Duration after positive culture. | Organism isolated. | Organisms found post mortem. |
|---|---|---|---|---|
| 1 | 20 days. | 45 days. | Staphylococcus albus. | Spleen, streptococci; kidney, streptococci and staphylococci. |
| 2 | Negative. | Negative. | Negative. | Pericardium, negative; vegetations, bacillus coli. |
| 3 | 31 days. | 24 days. | Staphylococci. | Thrombi and vegetations negative. |
| 4 | Negative. | Negative. | Negative. | Heart and spleen, bacillus coli. |
| 5 | 32 days. | 14 days. | Friedländer's pneumobacillus. | Not taken. |
| 6 | — | 7 ,, | Streptococcus pyogenes. | No post mortem. |
| 7 | No culture. | No culture. | No culture. | Not taken. |
| 8 | ,, | ,, | ,, | Lungs and spleen, streptococci and staphylococcus aureus. |
| 9 | ,, | ,, | ,, | Heart, bacillus coli. |

*Note.*—In Case 6 the endocardial lesion was a terminal infection, hence the duration before positive culture is not given. In Cases 7, 8, and 9 no cultures were made during life, as there was no evidence of cardiac lesion. Case 7 was only under observation for a few hours, and Case 8 for four days.

The records of these bacteriological findings are interesting, as they show a variety of causative micro-organisms, and also as they differ to a large extent from the most common type of the disease, which is mostly a streptococcal infection. Statistics show that streptococci occur in about 75 per cent. of these cases, and further, it has been demonstrated by Horder and Andrewes that the type of streptococci found is not the highly pathogenic streptococcus pyogenes, nor the pneumococcus, but one or other of three types more closely allied to the saprophytic streptococci of the alimentary tract, salivarius, anginosus, and fæcalis, which have a low virulence.

*Symptoms.*—Associated with these so-called cardinal signs, other prominent symptoms are usually present to aid the diagnosis, notably emaciation, changes in the blood, and fever. Emaciation was an almost constant feature in the cases of this series, and it was very marked in the more prolonged cases. In the blood the more constant change was a progressive anæmia, associated usually with a degree of leucocytosis. This leucocytosis was never very high, and usually showed a tendency to decrease before death, as the powers of resistance to the disease lessened.

As regards fever, this series presents examples of varied types. Several cases came under observation with a temperature continuously febrile, which later gave place to the characteristic swinging temperature of a septicæmic condition. This type is well illustrated by Case 1. Others came under observation with a strictly normal temperature, which, after a time, was replaced by irregular fever, and later by the characteristic remittent type. Cases 2 and 3 are marked illustrations of this variety. Several of the cases showed afebrile intervals in the course of the fever, notably Case 4, in which there was such an interval of 14 days' duration. It is generally recognised that, whatever the form of fever in the earlier part of the disease, it tends to take a lower range, or even to cease altogether shortly before death. This tendency to diminution of the fever towards the close was noted in several of these cases. In one case—No. 8—there was no fever during observation, but, as this patient was only in the ward for four days before death, it was probably an example of the terminal afebrile phase.

In presence of the cardinal signs and the associated characteristic symptoms just reviewed, a certain diagnosis of the condition may, as a rule, be made. The chief difficulties met with are that, in some cases, there may be no direct evidence of embolism, and, in others, there may be no positive culture from the blood during life. In such cases the diagnosis can only be a tentative one, though it may ultimately be verified, as in several of the cases here included.

There is a further difficulty from a diagnostic point of view that cases do occur in which, even with all the cardinal signs and symptoms just mentioned present, the condition may be explainable otherwise than by an infective cardiac lesion. Such a case was published, in a recent number of THE LANCET, by Mitchell Clarke, in which there were all the characters of an infective lesion, except direct evidence of embolism, beyond a degree of splenic enlargement. This case recovered under treatment by an autogenous vaccine. The cardiac murmur—a ventricular systolic apical—appeared under observation, and ultimately disappeared with recovery. The case was explained as one of septicæmia from influenzal infection, with a subsequent toxic myocarditis, and dilatation of the left ventricle, thus setting up a relative mitral insufficiency, as evidenced by the murmur.

This case is very interesting as a sidelight on the only two recorded cases diagnosed as infective endocarditis which have recovered under treatment. One is referred to by Horder as under the care of Sir Dyce Duckworth in 1902. In this case two blood cultures proved negative, and it was treated by polyvalent antistreptococcus serum. Complete recovery followed. The cardiac condition was pretty much as in Clarke's case, except that the murmur was heard all over the heart, but loudest at the apex; and thus it might reasonably be explained as a toxic myocarditis, with relative insufficiency, though the nature of the toxin was undiscovered. The other case is one published jointly by Sir James Barr, Dr. Blair Bell, and Captain S. R. Douglas, I.M.S., in which the cardiac signs were again rather unconvincing, and capable of a similar explanation. In this case a streptococcic vaccine was used with successful result. It is rather unfortunate that the only recorded cases of recovery from

this disease should have had cardiac physical signs, which might reasonably be explained on other grounds than by a local infective lesion.

*Treatment.*

In this regard the outlook in such cases has all along been a hopeless one, and the records are almost entirely those of failure. Drugs of all kinds have been tried, and have proved equally disappointing, even when administered under the best conditions. Certain so-called blood antiseptics have been recommended and used in general septicæmic infections, and sometimes apparently with good results, but in this variety of septicæmia, with local infective cardiac lesion, they have proved of no avail.

The most hopeful results from drugs have been obtained from the use of collargol, and protargol by inunction, as recorded by Ewart and Morley, and more recently by Cowan. These, however, were in cases in which, so far as can be gathered, no organism was isolated from the blood during life. By this means temporary benefits, lasting for several months, have resulted. So far, however, no specific has been found for this condition.

The introduction of antistreptococcic serum, and particularly the polyvalent serum, might reasonably have been expected to prove of benefit, because of the great preponderance of streptococcal cases; but here again no success has been obtained, except in the case already referred to. Horder has tested this line of treatment very thoroughly, without any permanent good resulting, though occasionally he has noted temporary benefit. In considering these results of treatment it must not be lost sight of that, in a number of cases, even without special treatment, periods of apparent or real improvement may supervene, so that under certain forms of treatment the subsequent temporary benefit may be a mere coincidence.

It is possible, following on Horder's observations relative to the variety of streptococci causing infective endocarditis, that the failure of antisera may be explained by the exceptional nature of the streptococci, as the ordinary stock antisera are usually prepared from various strains of streptococcus pyogenes. The same difficulty arises with a polyvalent serum, as this is prepared, not from streptococci of known difference in reaction, but from those from different diseased conditions.

The introduction of vaccine-therapy, however, has overcome this difficulty, and has shed a ray of hope on the treatment of such conditions, though, even along these lines, the success which might reasonably have been anticipated has not been realised. The main difficulties in the way here are: (1) that many of these cases are so acute as to allow no time for the preparation of a vaccine, as in Cases 7 and 8 of this series; (2) that in some cases, even on repeated attempts, no organism can be cultivated from the blood, as in Case 2; (3) that sometimes the organism may be isolated too late for its discovery to be of any therapeutic value, as in Case 6. There remain, then, cases of the more chronic type, in which a definite organism is isolated in time to prove of possible service beyond merely confirming the diagnosis.

In a number of recorded cases of this type a course of vaccine treatment has been carried out without any permanent check to the progress of the disease, though in several the treatment was followed by a marked improvement. Horder has recorded a striking result in one case of influenzal endocarditis, diagnosed by blood culture, in which treatment by an autogenous vaccine produced diminution of fever, gain in weight, improvement in colour, and a sterile blood culture. Later, however, he has had to record a relapse in this case and a fatal issue, in spite of a third course of vaccine treatment. The only case recorded as successful so far under this form of treatment is that published by Barr, Blair Bell, and Douglas, to which reference has already been made.

From the point of view of specific treatment, the majority of the cases of this series were not at all suitable. Case 3 seemed to be very favourable for such a trial, and it was treated by an autogenous vaccine without any apparent benefit. Case 6 was treated by antistreptococcic serum, but too late for much to be expected from its use. In this case there was no time for the preparation of a vaccine after the isolation of the organism.

Although vaccine-therapy has met with so little success, even in cases which appeared suitable for its use, it seems, from the nature of the disease, to be along such lines that we must look for ultimate success, aided by riper experience and perfected methods. It is only by repeated trials of specific inoculation in every possible case that we can hope to further this end.

Though there is, so far, no specific means of combating the infection, something may be accomplished towards preventing the possibility of secondary infection in cases of rheumatic fever and in patients known to have valvular defects. In such it is our duty to be increasingly watchful, to aid convalescence by all the general means in our power—viz., rest, good feeding, careful nursing, tonics, &c.—and especially to combat the anæmia, which is such a prominent feature in prolonged rheumatic attacks, and one which favours the onset of a malignant process. Further, knowing, as we do, that in many cases the source of infection is the mouth or intestine, any condition of oral sepsis should be rigorously treated. Large unhealthy tonsils should be removed, as these form a suitable nidus for infective organisms. Careful regulation of the bowel also, by preventing the retention of fæcal matter, must tend to lessen the chances of infection from that quarter.

My thanks are due to Professor W. K. Hunter for permission to publish these cases and to Professor J. H. Teacher for the use of his records to verify my notes on the post-mortem examinations.

*Notes of Cases.*

Abstracts of the clinical records and post-mortem findings are appended.

CASE 1.—Man, aged 25. Admitted Dec. 19th, 1908; died Feb. 22nd, 1909. Came under observation with endocarditis, apparently dating from influenza and pleurisy five months before. The cardiac area was enlarged, and a loud ventricular systolic murmur was audible at all the areas. The most obvious symptoms were considerable emaciation and a febrile condition. For two weeks the temperature was very irregular (99°–103·6° F.), the heart condition remained unchanged, and there was slight diarrhœa. Widal reaction was negative, and the urine was negative both to the diazo and Russo's methylene blue test. Thereafter the temperature became more definitely intermittent, the cardiac area increased in size, and he had night sweats. There was no cardiac embarrassment, and no change in the auscultatory phenomena, but on shifting the patient to his right side the whole area of cardiac dulness passed 1½ inches to the right. The hectic temperature continued—average daily range 4·5°; while the cardiac area still increased—greatest transverse measurement 9½ inches. The murmur and its distribution remained unchanged. It was noted that the distribution was not that of any special valve, but rather suggestive of the presence of an opening in the undefended space between the ventricles, though there was no history pointing to, nor appearance of, congenital disease. The blood showed a steadily progressive anæmia, with a varying degree of leucocytosis—average, 28,000 per c.mm. The spleen was considerably enlarged and easily palpable. Blood cultures were negative till Jan. 8th, 1909, when a growth of staphylococcus albus was obtained. Later cultures again proved negative. Signs of cardiac failure appeared during the last few days of life.

*Post-mortem examination.*—The cardiac findings were so interesting as to justify detail. Pericardium was healthy, and contained a little fluid. The heart was much enlarged. Mitral valve admitted two fingers. Its cusps were not thickened or shortened, but on their auricular aspects numerous large vegetations were found, extending into the auricle for about one inch. These were all soft, mostly formed of thrombus, but some were composed of young fibrous tissue. Tricuspid valve admitted three fingers. There was no thickening or shortening of the chordæ or thickening of the curtains, but on one cusp a few similar vegetations were found, and just beneath the valve, on the outer wall of the ventricle, a considerable aggregation of vegetations extended downwards for about half an inch. Aortic valves showed similar vegetations along the line of contact on two of the cusps, but there was no perforation. Pulmonic valve was quite healthy, but for a minute fibrous nodule on the heart wall just beneath the centre of one cusp. A circular opening, about a quarter of an inch in diameter, was discovered at the upper part of the interventricular septum, communicating with both ventricles. This was formed by a fibrous ring, with fibrous tissue extending beyond it for about half an inch all round. Here there was no evidence of fresh endocarditis. Evidences of infarctions, probably septic, were found in the lungs, spleen, kidneys, and mesentery. Cultures from the spleen gave a pure growth of streptococci, and from the kidney a mixed growth of streptococci and staphylococci.

CASE 2.—Married woman, aged 22. Admitted April 24th, 1909; died June 8th, 1909. She came under observation on account of pain and swelling in the larger joints of 24 hours' duration. There was a history of repeated sore throats, and of acute rheumatism two years before, after which her heart was said to be affected, though it never troubled her. All her joints seemed painful on admission, and some were swollen. Her temperature was normal. The cardiac area was not enlarged, but the first sound was followed by a soft blowing murmur at the apex. For some days there was considerable improvement under salicylates, and the joint pains disappeared, though some præcordial pain appeared. Six days after admission the temperature suddenly shot up to 103·6° F., and thereafter became irregular. The cardiac area became enlarged, and a ventricular systolic murmur was noted at both aortic and pulmonic areas. The temperature then became more definitely hectic in type, and on May 4th and 5th rigors occurred, and were repeated at irregular intervals. Pericardial friction appeared after the early rigors, the cardiac dulness became still more enlarged, and the cardiac sounds were muffled. The character of the cardiac murmurs varied from time to time, as also did the cardiac area, though it was consistently enlarged. A marked degree of leucocytosis was present throughout.

During the last week of life a considerable improvement was manifest in the temperature, which never rose higher than 99·4°, and the cardiac area lessened in size. Systolic retraction at apex was noted. Blood cultures were taken at various times throughout the illness without definite result.

*Post-mortem examination.*—Heart dilated in all its cavities with pericardium adherent around the apex. Fibrinous exudation in pericardium with about 4 ounces of pus. Very large masses of vegetations on both mitral and aortic valves, and on one mitral cusp a very small aneurysm. Spleen considerably enlarged, showing many old and recent infarcts. Cultures from pericardium proved negative, while from the vegetations a growth of bacillus coli resulted.

CASE 3.—Man, aged 21. Admitted April 12th, 1910; died June 6th, 1910. Complained on admission of breathlessness and palpitation on exertion. There was no history of rheumatism, scarlet fever, or chorea, but in July, 1909, there was pleurisy, with chill during convalescence, followed by œdema of feet. Thereafter he had good health till January, 1910, when he had cough, spit, and breathlessness. These persisted, and later became more marked. There was no alcoholic history. On admission his chief symptoms were those of aortic obstruction and regurgitation, with a rapid but regular water-hammer pulse. The cardiac area was enlarged, both to left and right. Loud ventricular systolic and faint ventricular diastolic murmurs were heard at apex, and at aortic area a well-marked see-saw murmur. Carotid pulsation was marked. The temperature was normal till six days after admission, when it became febrile, and later intermittent in character. A rough presystolic murmur appeared at apex. Blood culture gave positive result one month after admission, a growth of staphylococcus being obtained. A vaccine was prepared, of which he had several doses at regular intervals thereafter, without any apparent improvement. He never had a rigor, but he had profuse sweatings. No retinal or other hæmorrhage was observed.

*Post-mortem examination.*—Heart showed great dilatation and hypertrophy, most marked in left ventricle. On aortic and mitral valves ulcerative endocarditis, both old and recent, was found. There was a marked degree of arterio-sclerosis. Kidneys showed parenchymatous and interstitial changes, and in the right kidney a large old infarct was seen.

CASE 4.—Man, aged 30. Admitted Sept. 11th, 1908; died Nov. 9th, 1908. Complained on admission of sudden loss of power in left side of body. At 17 he had rheumatic fever—an illness of 16 weeks—from which he made a good recovery, as he thereafter joined the army. One year later he had a second attack, after which he was invalided out of the army. He had some breathlessness for two months before admission, but was able to work up to his seizure on Sept. 11th. The loss of power was more marked in the arm and face than in the leg. Cardiac dulness was noted as enlarged to the left, and at all the areas a double murmur (ventricular systolic and diastolic) was heard. Pulse was water-hammer in character. The urine contained albumin and blood. The spleen was not palpable. For three weeks after admission he had diarrhœa, and an irregular temperature varying from normal to 101·8° F. Thereafter the diarrhœa ceased and the fever disappeared. The cardiac condition improved, and he was able to walk fairly well. On Oct. 20th the fever returned, accompanied by pains in right ankle and knee, with some swelling. By this time the hemiplegic condition had quite disappeared. The joint pains persisted for some days, then ceased, though the temperature remained irregularly febrile. His general condition became unsatisfactory. Cardiac dulness extended towards right as well as left. He had a good deal of sweating. Blood cultures proved negative. The temperature shot up on one occasion, associated with severe abdominal pain, coffee-ground vomit, and abdominal rigidity. This condition became easier, and the temperature fell to subnormal, where it remained till death ensued on Nov. 9th.

*Post-mortem examination.*—Pericardium closely adherent. Heart very large, with left ventricle hypertrophied. Numerous vegetations along free border of mitral curtains. Large ulcerative patch with vegetations and hæmorrhage at root of aorta, and extending over mitral valve. Numerous large vegetations on aortic segments, and the valves were incompetent. General abdominal peritonitis, resulting from a perforated appendicular abscess. Spleen was enlarged, with numerous infarcts, both old and recent. Cultures from heart and spleen showed only bacillus coli.

CASE 5.—Man, aged 24. Admitted Oct. 23rd, 1911; died Dec. 8th, 1911. Complained on admission of muscular pains in legs and body, swelling of the feet, breathlessness, and palpitation. History of chill one year before, followed by influenza lasting for two months. Thereafter he strained himself, and was liable to breathlessness. In January, 1911, he was in hospital with kidney disease, and on dismissal he still had some albuminuria. Thereafter he had muscular pains, and pains in the soles of his feet, and he began to lose weight. The breathlessness persisted, and he noticed purple spots on his legs and neck from time to time. On admission he had a moderate degree of anæmia, and irregular purpuric spots were seen on both legs. Cardiac area extended 1½ inches to right of middle line. Ventricular systolic apical murmur was noted, with characteristic mitral conduction, and at aortic cartilage a ventricular systolic murmur was heard, transmitted into the neck. The spleen was considerably enlarged and easily palpable. Within a few days a faint ventricular diastolic murmur appeared at aortic region. The urine contained albumin, a trace of blood, and casts, both granular and epithelial. The purpura disappeared. At this stage albuminuric retinitis was noted. Without obvious cause he had a slight epistaxis. The temperature was never more than slightly febrile, and he had a steady leucopenia. On Nov. 24th he developed convulsions, slight but general. On this date blood culture gave a pure growth of Friedländer's pneumobacillus. On Dec. 8th a slight convulsion was followed by death.

*Post-mortem examination.*—Lungs showed great venous congestion, œdema, and one small infarct. Heart showed hypertrophy of left ventricle, with patchy fibrosis. Mitral, pulmonary, and tricuspid valves quite normal. Aorta was completely blocked by a mass of vegetations, mostly cretaceous. The valves were deformed and adherent, and about ½ in. beyond them were several small deep pockets—small aneurysms—with sharply cut mouths. About 1 in. up there was a larger aneurysm—size of a walnut—filled with thrombi and vegetation-like masses. In the floor of this aneurysm was a recent rupture of the aorta. A further aneurysm—size of a hazel-nut—arose by a narrow slit between left carotid and subclavian arteries. Lower aorta was healthy. Abdominal organs were congested and enlarged, especially spleen. Numerous infarcts, of various ages, in spleen and kidneys.

CASE 6.—Married woman, aged 36. She was about seven months pregnant, when she caught cold and developed pleuro-pneumonia. At first she seemed to do well and the temperature and symptoms subsided somewhat, though the physical signs did not clear up. The dyspnœa became more acute, and this was intensified by the advancing pregnancy. It was considered advisable to induce premature labour. This was done and the uterus emptied, with marked respiratory improvement. She began to complain of pain, apparently superficial, in the abdomen, for which at first there was no obvious cause. Later, evidence of pus in the abdominal wall was found, and she was removed to a nursing home, where the pus was evacuated. It was with considerable difficulty that efficient drainage could be established, as the pus extended downwards around the bladder. Her condition did not improve, she rapidly emaciated, and the temperature became definitely intermittent. Four days after operation a ventricular systolic apical murmur appeared, and next day, when I saw her, a harsh ventricular systolic and a faint ventricular diastolic could also be heard at the base. The septicæmia was obvious, and an infective endocardial lesion was diagnosed. Blood culture gave a growth of streptococcus pyogenes. A market brand of antistreptococcic serum was injected subcutaneously in full doses, but without any benefit, and she died two days later. There had in this case been no pre-existing cardiac lesion and there was no history of rheumatism or rheumatic manifestation. The patient had enjoyed excellent health.

CASE 7.—Girl, aged 14. Admitted Oct. 31st, 1910, and died same evening. On admission she was semi-comatose, with general convulsive seizures occurring every two minutes. Pupils were equal, medium, and active to light, with conjunctival reflex present. Pulse numbered 72 and respirations 30 per minute. Her temperature was 100·8° F. Cardiac area was of normal size, the heart's action rather tumultuous and irregular, but no murmur was noted. The lungs were normal. Kernig's sign was not obtained and the reflexes were normal. There was a history of excellent health, save for chorea at 11 years, until the sudden onset of the fatal illness in the early morning of the day of admission, with severe headache followed by convulsions. She had vomited the day previous, but thereafter seemed to be quite well.

*Post-mortem examination.*—The heart showed hypertrophy of both ventricles. The aortic valve was incompetent, and on one cusp were several small vegetations, though not apparently very recent. Mitral valve showed well-marked ulcerative endocarditis of its curtains, and in the contrafossal area a large mural patch. The other valves were normal. The spleen was greatly enlarged with a fairly recent infarct. The kidneys were congested, the left showing an old infarction. In the brain there was a large recent hæmorrhage in the upper part of the left hemisphere, above and rather external to the corpus striatum, not communicating with the lateral ventricles. The bone marrow showed a leucoblastic reaction.

CASE 8.—Married woman, aged 34. Admitted Nov. 10th, 1910; died Nov. 14th, 1910. Complained on admission of great weakness and pain in the neck. There was a history of acute illness for 12 days previous, commencing with painful swelling in the left side of neck at the angle of the jaw. There was marked associated weakness, and vomiting without food relation. The swelling gradually subsided before admission, but was followed by swelling in right hand and pain in right elbow. Her previous history was excellent, and she never had rheumatism. On admission the most marked features were emaciation, slight cardiac enlargement with harsh ventricular systolic basal murmur, impairment of percussion resonance at left base, and medium moist râles heard over this area. There were also pain and swelling of metacarpophalangeal joint of the first finger of the right hand. The temperature was normal and remained so to the end. The pulmonary condition remained much as at the outset, though lack of resonance also was noted at right base.

*Post-mortem examination.*—Heart showed diffuse fatty degeneration; aortic valves were slightly incompetent, showing soft, smooth, white thickenings. Mitral valve showed a few small vegetations, with recent ulcerative change, along the line of contact of its curtains. In the lungs were several small abscess cavities, suggestive of gangrene. Pus from the swollen joint revealed streptococci. Cultures from the lung and spleen produced growths of streptococcus and staphylococcus aureus.

CASE 9.—Man, aged 48. Admitted Jan. 24th, 1911; died Feb. 3rd, 1911. Healthy history, save for pneumonia in left lung in 1895, till onset of present illness on Jan. 10th, 1911, with chill, œdema of feet and legs, and diminished, high-coloured urine. On the 23rd he took a shivering, and had pain in right chest, headache, thirst, dyspnœa, and cough, but no spit. Next day he was admitted to hospital. On examination of the chest a pneumonic condition was found on the right side, the physical signs indicating varying stages of the disease in the different lobes. The progress of the case was deceptive, as after three days there were signs of cardiac failure, followed by a general improvement under stimulation, and a pseudo-crisis four days thereafter. The general condition of the patient was much better, temperature was normal with slower pulse and respiration rate. The improvement was only apparent, as the fever returned in the evening, with delirium, and evidences of fresh consolidation. He died of cardiac failure two days later. There was no evidence during life of a cardiac lesion, and blood cultures were not taken.

*Post-mortem examination.*—Heart was dilated and soft, and both ventricles were hypertrophied. Mitral and tricuspid orifices, though dilated, were healthy. Aortic valves were competent, but showed acute endocarditis with ulceration and deposits. Aorta was healthy. Old adhesions were found in the pleural cavities. Left lung was congested and œdematous, while the right lower lobe was collapsed, and the upper and middle lobes were consolidated. Cultures from the heart showed only bacillus coli.

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Glasgow

# CARCINOMA AND SARCOMA OF THE SAME BREAST.

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(*From the Cancer Hospital Research Institute, London.*)

THE extreme rarity of this condition makes the following case well worthy of being placed on record.

The patient, a single woman, aged 46 years, was admitted into the Cancer Hospital in September, 1908, under the care of Mr. R. H. Jocelyn Swan, to whose courtesy I am indebted for the use of the material. She had noticed a tumour growing in the breast for nine months; otherwise there was nothing of importance in her history. Upon examination the upper and outer quadrant of the left breast was occupied by a tumour of the size of a cocoanut, over which the skin was discoloured and beginning to ulcerate. The growth was very hard and was firmly fixed to the pectoral muscles; there were no palpable glands in the axilla or the supraclavicular triangle. On Sept. 17th the breast was amputated along with the underlying muscle and the axilla was cleared out. The patient made a good recovery and was discharged on Oct. 24th. She was readmitted in June, 1911, for the removal of a mass of

FIG. 1.

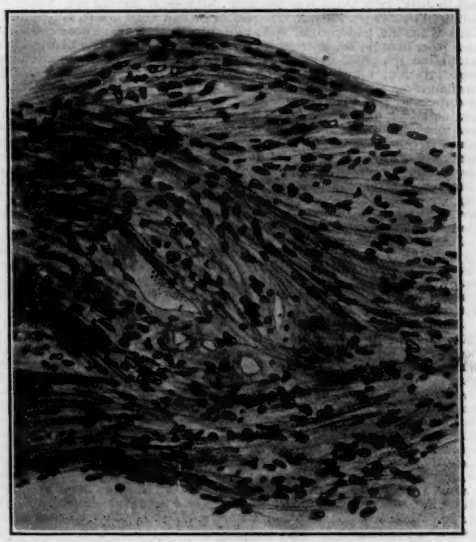
Breast, bisected to show the two tumours (about one-quarter of life size). N marks the nipple in profile immediately above the carcinoma and below the sarcoma.

glands above the left clavicle. The site of operation was healthy. The supraclavicular triangle was cleared out as far as possible, but the glands extended into the superior mediastinum, and Mr. Swan informs me that at the time he was not at all hopeful of having eradicated the disease. The patient left the hospital, but returned in December, obviously much weaker, and with a considerable recurrence in the supraclavicular triangle. She died two months later.

*Pathological Description.*

*Primary tumour* (Fig. 1).—The greater part of the breast is occupied by a massive tumour, which measures 10 in. by 8 in. in its widest diameters. The tumour has undergone a great deal of myxomatous degeneration with hæmorrhage into its substance, but in the deeper part there is a broad band of solid, white growth, over which the underlying pectoral muscle is adherent and stretched. It is roughly

FIG. 2.



Section of the sarcoma. × 180.

oval in form, and its surface is slightly nodular. The nipple and breast tissue lie to one side of the tumour and are not sharply differentiated from it. The nipple is depressed, and both it and the underlying gland are converted into firm white tissue, gradually fading off at the periphery. There were one or two small lymphatic glands in the axilla.

*Histology.*

*Tumour* (Fig. 2).—This presents all the features of a fibrosarcoma. It is made up of large irregular cells with oval or rounded nuclei, often exhibiting mitoses. At the periphery the growth is highly cellular, the cells being arranged in interlacing bundles and whorls; but in the more central parts myxomatous degeneration, hæmorrhage, and necrosis are marked. It has an abundant blood-supply, being traversed by delicate vessels with a wall composed of a single layer of endothelium, and large blood sinuses occur which appear to be lined by the tumour cells themselves. The tumour, then, has the features of a rapidly growing fibrosarcoma, and further evidence of the malignancy of the growth is found in the way in which it is infiltrating the muscle at the periphery.

*Mammary tissue* (Fig. 3).—This presents, besides a good deal of chronic mastitis, a typical, diffuse, scirrhous carcinoma. The cells are roughly spherical in shape and are arranged in small alveoli or trabeculæ. The stroma is very abundant and is composed of dense fibrous tissue. Where the two tumours are adjacent to one another there is some intermingling of the sarcomatous and carcinomatous elements; but elsewhere the smaller growth is a pure carcinoma, and its stroma is, if anything, denser and less cellular than usual.

*Glands from the axilla.*—In one of the glands there is a small carcinomatous metastasis exactly resembling the breast carcinoma in structure, except that it is rather less scirrhous in type.

*Tissue removed at the second operation.*—This consists of a mass of very deeply pigmented lymphatic glands with the surrounding connective tissue. The glands are filled with

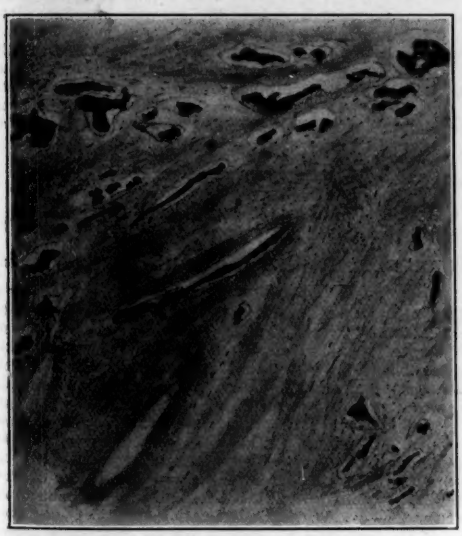
pigment, and several of them contain areas of firm, yellowish tissue.

*Histology* (*Fig. 4*).—The glands show an advanced degree of pigmentation and fibrosis. The yellowish areas consist of a scirrhous alveolar carcinoma, which has all the features of the carcinoma of the breast removed three years before, except that there is less stroma, and which is undoubtedly secondary to it.

*Post-mortem examination.*—The body was exceedingly emaciated. There was a mass of firm, white growth in the left supraclavicular fossa, continuous with masses of similar growth in the axilla and the anterior mediastinum. There was no recurrence in the scar of the breast amputation, though there was a small cutaneous nodule opposite the ninth left costal cartilage, and the first left intercostal space was infiltrated with growth. Metastases were present in both cerebral hemispheres, the lungs, the pancreas, the left kidney, and the deep cervical glands on the right side. Microscopically all the deposits show the same type of growth, a scirrhous, alveolar carcinoma; the stroma varies somewhat in character, being dense and abundant in the older deposits and scantier and more cellular in the more recent nodules, but nowhere is there any suggestion of any sarcomatous transformation.

There are recorded numerous instances of double primary carcinomatous growths and a few in which a sarcoma and a carcinoma have occurred in the same person, but examples of two malignant tumours in one organ are very much rarer, and I have been able to find only three cases of sarcoma and carcinoma of the breast in the literature. Dorsch[1] records a case of carcinoma and spindle-cell sarcoma in the same breast. The carcinomatous element was in excess,

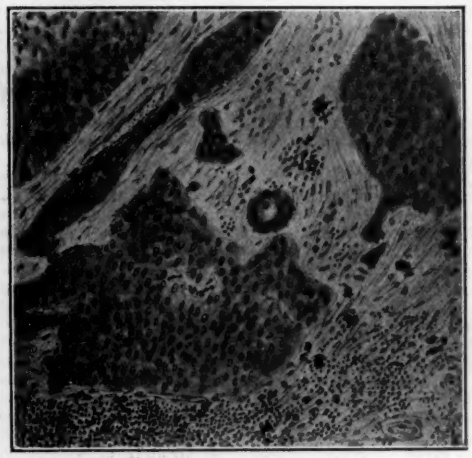
FIG. 3.



Section of carcinoma of breast. × 40. The stroma is dense and abundant. The carcinoma cells have shrunk in course of preparation.

and he regards it as the primary growth. Coenen[2] records a case of spindle-cell sarcoma of the breast in which a carcinoma was present, intimately associated with the sarcoma. Carcinomatous metastases were present in the neighbouring lymphatic glands, and, later, glandular recurrence took place in which the new growth was sarcomatous. He believes the condition originated in a fibroma which became sarcomatous and stimulated the glandular elements to take on malignant characters. In Schlagenhaufer's case[3] a breast contained a carcinoma and a giant cell sarcoma. Metastases of both types of growth appeared later in the lymphatic glands. In the experimental study of cancer several instances of combined carcinomatous and sarcomatous growths of the mammæ of the mouse have occurred. Ehrlich and Apolant,[4] Haaland,[5] and Russell[6] have described a sarcomatous transformation of the stroma in a mammary cancer of the mouse in the course of propagation, and in two primary mammary tumours of the mouse examined in the laboratories of the Imperial Cancer Research Fund both types of growth have been present.

FIG. 4.



Section of gland removed at the second operation. × 120. Shows masses of pigment and carcinomatous metastases.

In Russell's case the age of the carcinoma appeared to be the important factor in the production of the sarcoma, and an allied condition seemed to be present in one of the spontaneous double tumours. In the present case the relationship of the two neoplasms is by no means certain. If the sarcoma were secondary to the carcinoma and due to its influence, it would be reasonable to expect a closer connexion between the two growths, a more diffuse malignant transformation of the stroma of the epithelial tumour. Further, one would have expected that the carcinomatous metastases, some of long standing, would have exercised a similar influence on their connective tissue scaffoldings; but there is no evidence of any such process, and no sarcomatous metastases were discovered. Nicholson[7] has recently described the production of a malignant epithelial neoplasm during the propagation of a sarcoma of the rat, and we must therefore bear in mind the possibility of the sarcoma having been the primary growth and having stimulated the adjacent mammary tissue to take on malignant characters. The position of the two tumours lends some support to this view, and the process would be analogous to that described by Coenen. Either this explanation must be adopted or the presence of the two tumours must be looked upon as a mere coincidence.

[1] Dorsch: Krebs und Sarkomer der Mamma, Inaugural Dissertation, Würzburg, 1897.
[2] Coenen: Ueber Mutationsgeschwülste und ihre Stellung im onkologischen System, Beiträge zur Klinischen Chirurgie, Band 68.
[3] Schlagenhaufer: Carcinom und Riesenzellsarkom derselben Mamma, Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, August 31st, 1906.
[4] Ehrlich and Apolant: Berliner Klinische Wochenschrift, 1905, No. 28.
[5] Haaland: Third Scientific Report, Imperial Cancer Research Fund.
[6] Russell: Journal of Pathology and Bacteriology, vol. xiv., No. 3.
[7] Nicholson: Ibid., vol. xvi., No. 4.

CHOLERA IN TURKEY.—Mr. Francis E. Crow, H.M. Consul at Basra, in his annual report to the Foreign Office mentions that a severe and prolonged epidemic of cholera visited Basra in the summer of 1911 and claimed many victims, both native and European. No reliable statistics are available, but there is little doubt (he remarks) that in the town of Basra and outlying districts several thousands of persons succumbed.

## TWO CASES OF ACUTE PANCREATITIS; ABDOMINAL DRAINAGE; APPENDICOSTOMY; RECOVERY.

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RECOVERY from acute hæmorrhagic pancreatitis is sufficiently rare to justify us in recording two cases recently under treatment in the Queen's Hospital, Birmingham. In each case both sacs of the peritoneum were drained, appendicostomy was performed, and through the opening in the appendix large quantities of saline solution were introduced into the large bowel. The amount of fluid absorbed was surprising and the effect most gratifying, a practically uneventful recovery following the operation in each instance.

CASE 1.—The patient, aged 41, a fat, red-faced man, was admitted to hospital on the evening of Jan. 20th, 1912, complaining of severe abdominal pain and vomiting. His history was as follows. He was a carpenter by trade. He had never, in his own words, had a day's illness in his life before this, with the exception of an attack of acute rheumatism six years ago. On the morning of Jan. 20th he got up to breakfast feeling perfectly well. Just before commencing to eat he noticed a dull aching pain in the epigastrium. He did not think seriously of it and ate his breakfast and started for work. About a quarter of an hour later the pain in the epigastrium had become much worse and he was violently sick. No relief followed the sickness. He was taken home and put to bed. The pain and vomiting continuing, he was brought to hospital about 12 o'clock the same night.

On admission he was suffering from a marked degree of shock. The pulse was 112 and weak, and the temperature was 95·4° F. He presented the typical abdominal facies, and was groaning as if in great pain. On examination of the abdomen the epigastrium was found to be very rigid and tender. The rest of the abdomen was slightly rigid but not tender. The area of liver dulness was much diminished and there were signs of free fluid in the peritoneal cavity. Perforation of a duodenal ulcer was diagnosed.

The abdomen was opened by a median incision above the umbilicus, when a quantity of blood-stained serous fluid escaped. Numerous areas of "fat necrosis" were seen in the omentum and mesentery of the small intestine. The stomach and duodenum were healthy. An opening was made into the lesser sac of the peritoneum by working between the stomach and transverse colon and the pancreas examined. It was swollen and felt very tense to the finger. A rubber tube was introduced into the lesser sac. A second incision was made over the appendix, which was pulled up and fixed in the upper angle of the wound. A second tube was passed into Douglas's pouch. The tip of the appendix was cut off and a catheter passed through it into the bowel.

The patient was put back to bed in the semi-Fowler position. He was given half a pint of saline with ½ oz. of brandy, hourly, through the appendix. In the first 24 hours he absorbed 8½ pints and the same quantity during the second 24 hours. On the third day the catheter came out of the appendix after three pints had been given and was not again introduced. In all, 20 pints of saline were administered in 60 hours. During this time the temperature rose from 95·6° to 99·8°; the pulse-rate fell from 120 to 100, and the respirations from 66 to 30. Twenty-four hours after the administration of the saline solution was discontinued a troublesome diarrhœa developed. This only ceased when milk was excluded from his dietary. There was a free purulent discharge from the tubes for some days, and when this began to lessen the output of urine greatly increased. Thus the average daily excretion for the first five days after operation was 29 oz., while for the second five days it rose to 77 oz. per diem. About a fortnight after the operation a large slough escaped from the upper wound. This was apparently a necrotic piece of the head of the pancreas. The patient left the hospital on Feb. 29th, and a month later was back at work and in good health.

CASE 2.—The patient, aged 45 years, a well-nourished woman, was admitted to hospital on Jan. 2nd, 1912, complaining of severe pain in the epigastrium and vomiting. Her history was as follows. Two years ago, when six months pregnant, she had an attack of epigastric pain and vomiting, lasting three or four hours. She has since had several similar attacks. She had had no illnesses other than these. On the morning of Jan. 1st she rose to breakfast feeling quite well. A short time later she noticed a dull pain in the epigastrium. After taking a dose of mustard and water she vomited. The vomiting relieved the pain for a short time, but it returned later, and she kept in bed all day. The bowels were opened with medicine. On the 2nd the epigastric pain became more severe and she was several times violently sick. On admission to hospital at 10 P.M. the same evening there was still some pain present in the epigastrium, but most of her pain was referred to the right iliac fossa, which was held very rigid and was exceedingly tender. The epigastrium was also tender. Temperature 102° F.; pulse 136, and very weak.

The abdomen was opened in the right iliac fossa and the appendix examined. A quantity of blood-stained fluid was present in the peritoneal cavity. The appendix appeared normal to the naked eye. Several areas of fat necrosis were present in the omentum. The incision was enlarged upwards and the head of the pancreas explored. A mass of œdematous and matted tissue was present in this situation, and after breaking down some adhesions bile-stained fluid began to well up from the depth of the wound. A rapid search failed to reveal the presence of gall-stones. One tube was passed down to the head of the pancreas and another into Douglas's pouch. Appendicostomy was performed as in the first case.

This patient was also given half a pint of saline every hour. In the first three days 23 pints were introduced into the colon through the appendix and retained. She left hospital on Feb. 8th with the wound in the abdomen firmly healed after an uneventful convalescence. During the first three days the temperature fell to normal and the pulse-rate to 96. There was a free flow of purulent fluid from the tubes, but unfortunately no reliable record of the amount of urine excreted was kept.

## CHRONIC ŒDEMA OF ONE LEG IN A CHILD.

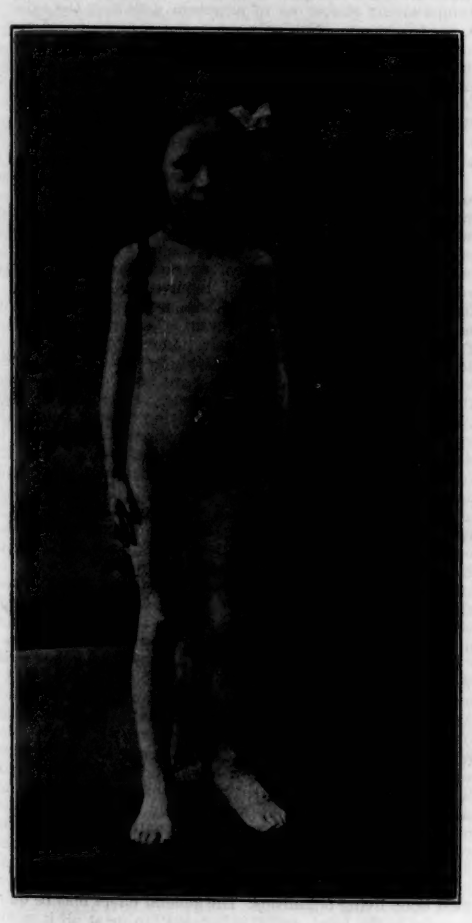
BY EDMUND O. HUGHES, M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, a girl, aged six years, was seen in private practice during August, 1911. The child was of average development, slender, blonde, rather pale, and of active habits. Her health had always been good, and except for a slight attack of measles some years before, no previous illness had occurred. She was the youngest of 13 children, nine of whom are living and healthy. The parents are healthy, and there is no evidence of familial or inherited disease among parents or children. About a week before, a swelling of her left leg had been noticed. Examination showed a fairly soft œdema of the left foot, ankle, and leg about half way up to the knee. There was no evidence of inflammation of any of the structures of the limb, and no sign of venous obstruction there. Deep palpation of the abdomen, which could be easily made, showed nothing abnormal. Further examination showed no clinical sign of disease in the circulatory system or elsewhere. The temperature was normal; the blood pressure 90 mm. She was ordered a mild iron mixture and rest in bed. The continued absence, however, of any discomfort in the leg made this inaction hard to maintain. The œdema, which diminished slightly during rest, increased when the leg was set down, and rather quickly extended until in a month from the commencement it involved the entire limb, which measured 2½ inches more than its fellow.

During an absence from practice the case was lost sight of till the end of October. Its condition was then found to be unchanged. Four isolated specimens of urine taken at this time showed a density of 1020–1028, and a uniform trace of albumin; the early morning urine showing an equal trace. There were no casts and no bacteria. Two day

specimens, slightly later, showed no albumin. On Nov. 20, 1911, Dr. N. Percy Marsh saw her in consultation, and agreed with me that though no objective cause for the swelling could be found, the most likely cause was a tuberculous formation or new growth within the abdomen on that side. At his suggestion a further period of rest was ordered, a liberal dietary, the use of unguentum hydrargyri, and a mixture containing iodide of iron and cod-liver oil. Under this regimen the child grew fatter, no change being observed in the leg. An X-ray examination, kindly done at the Liverpool Children's Infirmary, proved negative.

During the present year, as further inaction seemed useless, the child has been allowed to attend school, and runs about with an elastic-web bandage applied to the leg. She



Reproduction of photograph of patient showing œdema of left leg.

gives a negative von Pirquet reaction. A short experimental course of thyroid and a longer one of calcium lactate have been ineffectual. In June a 24-hour specimen gave me the following result: density 1021, urea percentage 1·7, chlorides (titration method) about 8 grm. in 24 hours; total solids 31·85 grm., total urine being approximately 650 c.c. On May 30th a blood count, made by the Pathological Department, Liverpool University, gave: erythrocytes, 4,762,500; leucocytes, 6750; and hæmoglobin, 90 per cent. Smears showed no increase in eosinophiles or any other abnormality. At present the leg shows an increase in circumference varying from 2½ to 3¼ inches at different times; the œdema is rather firm and pits on pressure; and that part of the abdominal wall corresponding to the area drained by the left superficial epigastric vein is perceptibly bulkier than the same area on the opposite side. The surface of the left leg has less warmth than the other, and to the unaided senses the quality of the skin appears to be unchanged.

The case is worth putting on record; and one is tempted to class it, provisionally at least, with those instances of non-congenital œdema of the lower extremities in children, a fair number of which have by now been reported, and which resemble this one both in many of their clinical features, and in the absence of any known pathology—the title "trophœdema" (Meige) being both vague and of doubtful warrant. A few of these cases have been unilateral. On the other hand, in the case of this child the general character of the œdema and its anatomical accuracy afford so complete a picture of obstruction of one external iliac vein that any other diagnosis could only be safely accepted if a direct exploration of the parts proved negative.

Liverpool.

## THE PROPHYLACTIC USE OF X RAYS BEFORE AND AFTER OPERATION FOR MALIGNANT DISEASE.

BY ROBERT KNOX, M.D. EDIN., M.R.C.S. ENG.,

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THE object of the present paper is to call attention to a method of treatment which up to the present has been in the main neglected. The experience of most X ray workers goes to prove that when used early X ray treatment holds out the promise of a certain degree of success. The logical outcome of such experience leads one to suggest the following definite rules for the guidance of all who wish to use X rays as an adjunct to the routine treatment of malignant disease: 1. Preliminary treatment in cases suitable for operation. 2. Post-operative treatment of the seat of operation and areas of possible extension—i.e., careful and repeated exposures of the areas drained by the lymphatics originating in the area of disease. 3. Treatment of recurrent nodules. 4. Treatment of inoperable cases and recurrences of considerable size.

Under heading 1, we take into consideration all cases of malignant disease, particularly when the disease originates in an accessible region. When time permits, a number of X ray exposures should be given at regular intervals. Recognising in these cases that operation is imperative, one would not suggest any delay in operating in order that X ray treatment should be carried out, but in the few days between diagnosis and operation a few exposures might be given. In carcinoma of the breast, to take a common example, the treatment should be commenced as soon as the disease is recognised. A full, unfiltered exposure should be made over the affected area and its surrounding parts; the axilla should at once get a full pastille dose. The special advantage of the latter treatment will be recognised when we state that such an exposure will result in the complete epilation of all the axillary hair in about three weeks from the date of exposure; further, a certain degree of atrophy will take place in the sweat glands of the axilla. Where time permits a second filtered dose may be given at the end of a week. As a rule, the result of the two exposures will be a complete epilation of the axillary hair and a marked degree of atrophy in the sweat glands. Should the patient be operated upon a week after the commencement of treatment, by the time the stitches are taken out—i.e., in 10 to 14 days—the condition of the axilla will be as follows: (1) hair in axilla nearly completely epilated; and (2) sweat glands undergoing atrophy. Result, a diminution of the sweating in axilla, removal of hairs, and a considerable improvement in the comfort of the patient. In the majority of breast operations the discomfort of the patient from irritation of hair and accumulations of sweat in the dressings is considerable. The advantage of a clean axilla after operation should be of importance in the after-treatment. Further, the irradiation of the whole area of lymphatic drainage should help to prevent recurrence in the line of scar and stitch wounds.

2. Post-operative X ray treatment of area of wounds and lymphatic drainage. This should be thorough and systematic, and should cover the breast, axillary and supraclavicular regions. Treatment should be undertaken as soon as possible after the operation; it may be carried out without disturbing

the dressings. An exposure once a week for the first month may be given, and thereafter once every three weeks for several months. The first exposure may be given without the use of a filter; subsequent doses should be always given through a filter. The choice of filtering material is fairly wide: many operators trust to thick layers of boiler felt, others to tungstate of calcium on lint, others to aluminium and other metals. The methods used at the Cancer Hospital and at the Great Northern Central Hospital are the same—thin sheets of aluminium are employed from ½ to 3 mm. thick. The first dose is not filtered; for the second, third, and fourth ½ mm. filter is used; then we proceed to 1 mm.; and if the duration of treatment is prolonged we go on to 2 and 3 mm. The object of the filtration is to protect the skin as much as possible. The first unfiltered dose secures a thorough radiation of the superficial layers of the skin, the subsequent doses are intended to penetrate deeper and attack the deeper layers of the skin and the tissues at deeper levels. The patient should be thoroughly examined at regular intervals for about two years in order to detect at the earliest possible date recurrent nodules. Treatment should be suspended when marked reaction appears on the skin, to be continued as soon as the reaction subsides.

3. Treatment of recurrent nodules. The majority of the cases of malignant disease which come for X-ray treatment come under this class. Many of those cases are quite hopeless from any point of view so far as cure is concerned, yet the relief of pain in many cases is marked. Early recurrence yields to repeated X ray exposure. The routine treatment is to expose the area to X rays at least once a week, and with filtration similar to that described under post-operative treatment. Treatment is kept up until a marked reaction is obtained over the whole area. Should the reaction be excessive the treatment may be suspended for a month and resumed at the end of that time. Under a *régime* of this kind nodules disappear gradually, pain is relieved, and the patient improves in general health. After the nodules have disappeared treatment should be continued at intervals of three weeks for at least a year, and after that should it be considered necessary.

4. In slowly growing inoperable cancer I have employed a method of treatment which may also be used in recurrence of considerable size. In several instances X ray treatment has been pushed to a marked extent; the area of healthy tissue is protected by thick lead screens; a circular area is cut out of the screen, exposing the tumour and a margin of healthy tissue. Pastille doses of X rays are given, at first unfiltered, later through 1 mm. of aluminium three times a week for several weeks. A marked reaction results and the tumour contracts. In one instance radium exposures were given to the central portion of the growth. 50 mgr. in a filter of 2½ mm. of platinum were applied for six hours. The whole of the new growth ulcerated, leaving healthy tissue behind. The resulting ulcer slowly healed and a sound scar was obtained after about three months' treatment. This intensive form of treatment is well worth a trial in cases which do not yield to any other form of treatment.

An experience in the treatment of cancer by X rays extending over ten years has led one to the following conclusions: (1) Early recurrence in slowly growing types of carcinoma is particularly amenable to X ray treatment (many cases show marked improvement, in others the nodules disappear and the enlarged glands slowly subside); (2) larger ulcerated areas slowly heal and leave a sound scar (several of these cases have remained healed for years); and (3) inoperable cases may by means of treatment be rendered operable. Some cases of carcinoma do not yield to X rays or radium treatment. The explanation of the causes of failure is difficult. When the growth occurs in subjects under 35 years of age the prognosis is always grave; such cases recur early and do not yield to X ray treatment; the masses slowly increase in size and the patient dies from exhaustion; other cases respond at first to treatment, then after a time the growth appears to get the upper hand and rapidly spreads. Occasionally treatment seems only to stimulate the progress of the growth; this may be due to insufficient dosage, though in several cases of this kind I have pushed the dose to the maximum degree without any apparent beneficial result.

One is frequently met with the argument that there is no conclusive proof that X ray treatment after operation prevents the recurrence of the growth. It is no proof in any particular case which has had X ray treatment and has not shown recurrence for years that the X ray treatment really ensured the non-appearance of the growth. I have seen many cases of cancer years after operation with no sign of recurrence. These patients received no after-treatment. How, then, can we prove the value of post-operative X ray treatment? It can only be done with the coöperation of the operating surgeons. Careful statistics of all the cases operated upon must be kept; two groups of such statistics must be considered. First you must ascertain the percentage of recurrence and period of recurrence in a group of cases which have not had any after-treatment. The second group should be those which have had X ray treatment. A comparison of the two groups should enable us to ascertain definitely the value of X ray treatment. Not only must the percentage of recurrence be taken into consideration, but any prolongation of the interval of time which elapses between the operation and the recurrence should be considered in order to aid us in our attempt to assess the value of X rays in treatment. Should the percentage of recurrence show a marked fall, then a distinct claim in favour of X ray treatment must be admitted.

When considering the value of X ray treatment for actual recurrence we can definitely state that X rays do cure such cases, sometimes permanently, or at all events for a period extending into years. This fact, to my mind, is a valuable one in favour of the plea for the systematic treatment of all cases of cancer after surgical operation. If by X rays we can cure cases of actual recurrence, surely it is a logical conclusion at which we arrive to state that in all probability we can prevent the actual recurrence if treatment is pushed vigorously immediately after operation. Let us consider the method by which the cancer propagates itself in cases which have been operated upon. The commonest seat for recurrence is (1) in the scar, (2) stitch infection, (3) in the outlying tissues where the growth has been left in small portions, or it may be (4) cancer cells have been squeezed out of the mass at the time of operation, and (5) lymphatic extension. The glands may not have been completely removed. Presuming that any one of these cases is operative we commence at once to irradiate the whole area and surrounding tissue. Inflammatory action is set up all over the tissues irradiated, fibrous tissue formation results, the cancer cells are involved in the general fibrosis, and are rendered harmless. The process which we know to be effective in the treatment of actual recurrence must *a priori* be beneficial in treating cases which in a certain percentage at least must show recurrence.

Further, judicious treatment by X rays has a beneficial effect upon the whole body; whether this is the result of a general stimulation or an auto-vaccination is a point which has yet to be determined. Experimental evidence is forthcoming which goes to show that cancer which has been treated with X rays or radium does not grow so readily when inoculated into mice as growth which has not had such treatment. It has been suggested that serum from an animal or a living being whose body surface has been subjected to X rays or radium emanations prevents the growth of cancer which has been inoculated in an animal. It is extremely probable that radiations of X rays, radium, and similar agents do exercise a general as well as a local effect upon living organisms. The general effect may be quite as useful as the local, and if it has any value at all it would be extremely useful to bear it in mind, because one need not then be limited in area of exposure. After local treatment has been pushed to its limit the treatment may be continued in other parts of the body.

In dealing with cases of cancer, either primary or recurrent, it is frequently noticed that in addition to the cancer process we have a secondary infection which may find an entry in a variety of ways. Where the growth becomes ulcerated organisms may obtain an entry from without; such may be staphylococci, streptococci, and others of rarer frequency. The secondary infection may exercise a deleterious influence upon the patient. In such cases it is well to bear in mind a combined method of treatment. The infecting organism is isolated and a vaccine prepared. I have treated several cases of this kind with a vaccine; the result in some instances has been very gratifying, the infective process is checked, and the reparative power of the patient is stimulated to such an extent that a marked improvement takes place in the general health and in the

local condition. Lastly, one must bear in mind the beneficial effect upon the patient of suitable tonics, plenty of sunshine and fresh air, cheerful surroundings, and a generous diet.

Harley-street, W.

# THE CARE OF CONSUMPTIVES.

## A REVIEW AND A FORECAST.[1]

BY THOMAS GLOVER LYON, M.A., M.D. CANTAB.,
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IN former days the conception of the nature and cause of consumption was exceedingly vague and fundamentally erroneous. The disease was believed to be due to an inherent failure of nutrition and vitality. The degenerate tissues were supposed to be liable to be consumed in performing their functions—a view which apparently received confirmation by the fact that the tubercles usually first made their appearance in the lungs where oxygen of the air came most directly in contact with the tissues. Consumption was often found to be preceded by persistent catarrhal attacks, and such attacks were noticed to be of frequent occurrence in the course of the disease and appeared to aggravate the symptoms. It thus came about that catarrh was regarded by many physicians as the actual cause of consumption. Consumption was regarded as either hereditary or caused by catarrh—no notice was taken of infection as a determining cause. A certain amount of romance was attached to a consumptive patient, who was said to be in a decline; doomed, after a brief existence, to fall the victim of a mysterious disease. This account of the old views regarding the nature of consumption was actually given me by a practitioner as the one in vogue when he studied at Edinburgh, about the middle of last century.

Consumption was looked upon as essentially a fatal disease, and recoveries were regarded as almost miraculous. The aim of treatment at this time was to avoid catarrh, and the means adopted was to keep the patient warm and free from draughts. The physician, I have been told by Sir Malcolm Morris, would feel along the sashes of the windows in his patient's room and order a sand-bag if he felt any air entering. Contrasting the course taken by consumption in those days with results obtained by modern methods, we are forced to conclude, I fear, that the treatment adopted, so far from benefiting the patient, aggravated his sufferings and shortened his life.

The desire to avoid catarrh, when circumstances allowed, induced physicians to send patients to a warm climate or on a sea voyage, but the good results of such treatment were much mitigated by the stuffy apartments in which the consumptives passed much of their time. A mistake, often made, was in recommending patients to a warm, moist, and relaxing rather than to a bracing climate. Amongst the districts around London, Brompton was justly reputed to possess a milder climate than the rest, and for this reason the Hospital for Consumptives was erected there.

The discovery of the cellular nature of tubercular growths did not help physicians much towards a better method of treating consumptives, for the real cause of the disease remained still unknown. In 1882 came Dr. Koch's great discovery that tuberculosis was caused by a microbe, of which the tubercle was the nidus—in other words, that consumption was a zymotic disease. This discovery revolutionised the views held as to the nature of consumption, but had little effect on treatment at the time.

Some 25 years ago, soon after I joined the staff of Victoria Park Hospital, I asked a senior colleague his opinion as to the curability of consumption, and well remember his answer. He said: "No doubt consumptives sometimes recover, but this is very rare, and I do not think any treatment has much effect one way or the other." A visit to the wards of a consumption hospital, at that time, was a most depressing experience; recovery was hopeless in all but exceptional cases. The best results were, as a rule, merely instances of a temporary improvement due to removal from home. Looking back, we are not surprised at all this, when we remember that the chief features of treatment were to keep up the temperature of the air in the wards and to avoid draughts. On cold nights, with these objects in view, all the windows of the wards were shut and the air would become as offensive as in a crowded room.

In 1891 the world was startled by a rumour that Dr. Koch, of Berlin, had discovered a cure for consumption in the form of an injection. At first the nature of the substance employed was kept a complete secret. After a time it was announced that the remedy was a substance prepared from the tubercle bacillus. For some time tuberculin was sold on commercial principles in conjunction with a special syringe, now obsolete. It will be seen that tuberculin made its appearance, like Hamlet's father's ghost, in a very questionable shape.

From the moment the nature of the so-called remedy was made known a doubt of its efficiency arose in the minds of most physicians. Judging from analogy, a treatment of this kind could scarcely be expected to work a cure when no claim was made that injections destroyed the organism causing the disease, and when applied to a disease which left no immunity after an attack. After some months, during which the use of tuberculin was confined to Berlin, Dr. G. A. Heron, a personal friend of Dr. Koch, as a great favour obtained a bottle of this so-called remedy. After some weeks of trial, he demonstrated the method and its results at Victoria Park Hospital before a meeting of distinguished physicians.

In estimating the value of a remedy for consumption it must be borne in mind that no disease presents a greater number of difficulties and pitfalls. No disease in its natural course displays so many unexpected upward and downward variations. It thus happens that, in order to arrive at a just estimate of a remedy, a large number of cases treated with tuberculin must be collected, and a general comparison made with other cases of a similar nature treated under similar conditions omitting the injection of tuberculin. This was done at Victoria Park Hospital and elsewhere, and I feel I am expressing the general consensus of opinion when I assert that unbiassed observers were unable to detect anything in favour of the treatment by tuberculin. At that moment the dose administered was sufficient to cause a considerable rise of temperature, and cases were not uncommon which appeared to prove that the injection of tuberculin was followed by bad results.

Since the original tuberculin failed to establish itself as a remedy, other preparations derived from the bacillus have been put forward. I cannot find that any greater success has attended the use of these, and am of opinion that the use of tuberculin in the treatment of consumption has no justification as a therapeutic agent. A sufficiently long course of observation has almost invariably convinced unbiassed operators that any signs of improvement in consumptive patients following injections of tuberculin have been mere coincidences, having no causal connexion with the administration of the drug.

I have dwelt rather long upon the subject of tuberculin because it was fathered by a great name, and because I feel it important that reliance on this drug should be set aside in order that full attention may be given to the methods of treating consumptives which have been proved to give substantial results. The history of all reputed remedies for consumption resembles that of tuberculin, and we are forced to the conclusion that no specific against the disease has yet been discovered, and that in the treatment of consumptives we must rely upon hygienic measures, supplemented by such medicinal assistance as each particular case may require.

As years went on, the value of fresh air continued to grow in the minds of physicians, and many used this remedy very freely with the best results, but it remained for Dr. Walther, of Nordrach, to give the final impetus that resulted in the general adoption of the open-air treatment of consumptives as we now know it. Before his influence had made itself felt we in England had adopted the principles of Dr. Walther's treatment. Patients were told to get as much fresh air as possible day and night, to take moderate exercise and plenty of rest, also to take as much food as possible, and that of a nourishing and fatty nature. Acting on these lines, a proportion of patients were restored to health, while others were much improved. But so

[1] An abstract of the Annual Oration (1912), delivered before the Hunterian Society

gloomy was the general opinion regarding the prognosis of consumption that a recovery came as a surprise, and doubt was usually expressed whether the case had been really of a tuberculous nature.

The question remained, How far should these methods be pushed? There was a feeling that more might be done if the treatment were more energetically applied under a greater amount of supervision. Some physicians, notably Dr. Theodore Williams, made special arrangements for patients to sleep in the open, and probably, after all, went as far as might be with advantage in this direction.

There is always a difficulty in England to get patients to undergo medical discipline of any sort; but what could not be done, or at least was not done, in England by English physicians was accomplished by a German physician in the Black Forest towards the end of the "nineties." Patients were persuaded to throw all ordinary comforts to the winds; they were induced to stuff themselves with repugnant food, and to submit to a supervision and ordering of habits, suggesting life in a penal settlement. Subsequent experience has proved that these extreme methods were not justified by results. But by the thoroughness of his methods Dr. Walther tested fully the limit of what may be expected to result by pushing to the utmost the open-air treatment for consumptives.

When first the open-air treatment of consumptives came into vogue it consisted of a slavish adhesion to the rigorous methods advocated by Dr. Walther. Experience has since proved that these methods could be modified with advantage, and the object of the remainder of my remarks is to advocate still further modifications, and to indicate some of the defects and limitations of sanatorium treatment, also to point out the advantage in certain cases of treatment apart from other patients.

For my purpose in view, I start to divide these into three classes: (1) working men and women; (2) clerks and others holding subordinate positions; and (3) men occupying positions of responsibility requiring initiative. Regarded from a clinical point of view, the first of these calls for adequate accommodation in sanatoriums, partly because patients of this class are used to have their lives ordered for them, and so are well fitted for this kind of treatment; and secondly, because their means do not allow of efficient treatment apart from other patients. The same applies to the second class, except in special cases.

As regards the duty of the State, there can be no question. Ample provision should be made for all persons of humble means suffering from consumption. In our present hospitals and sanatoriums, the result of experience and the growth of time, we have the organisation necessary, and it seems to me that all that is wanted is a State-aided extension of this organisation, with adequate remuneration for all administering it.

Let us now pass on to consider some points of modern sanatorium treatment, especially in relation to patients of fair means and responsible positions. In the first place, I cannot help thinking it inadvisable that a medical man should give his whole time to the care of a small number of patients suffering from one particular disease. He is thus apt to exaggerate the importance of slight fluctuations in the condition of his patient, and to over-estimate the value of particular details in treatment. Most sanatorium doctors are fully alive to this, and take great pains to keep in touch with professional *confrères* and the medical movements of the day; but there are others!

It has often struck me that the general atmosphere of sanatoriums is needlessly and injuriously ascetic; not sufficient attention is paid to the physical and mental comfort of the patients. What good can be expected by getting patients up an hour earlier and sending them to bed an hour or perhaps two hours earlier than was their custom in health? The patients have nothing of any importance to do all day and are got up early to do it. A feeling of boredom is the necessary consequence in those of active mental development. Then, again, in the matter of exposure. There is little question that vigorous treatment in this respect adds a stimulus to vitality in certain subjects, but in many cases the effect is just the opposite. Then in respect to food, I have visited sanatoriums where one would think a deliberate attempt had been made to make the food unattractive and indigestible. There can be little doubt that a liberal and varied diet is the best one for a consumptive. Fortunately, there are several sanatoriums in which this principle is now recognised, much to the benefit of the patients.

Then as to fresh air, I feel sure that the effect of breathing impure air occasionally for a short time is exaggerated. I remember a patient who made a good recovery, although he spent an hour or so in a public billiard-room every evening. I think patients should at least be made thoroughly comfortable while taking their food, even at the expense of swallowing a little air not quite up to sanatorium standards. The exhilaration experienced on stepping out into the open air after dining in a close room is by no means to be despised from a therapeutic point of view.

In parenthesis, there is no difficulty, at a small expense, in supplying a dining-room with pure air at comfortable temperature if suitable appliances are available.

I have long advocated a more liberal allowance of exercise of a pleasant description in the treatment of consumptives, and called in question the wisdom of relying too much on the thermometer in regulating the amount permitted. A sufficiently accurate test as to the effect of exercise, I believe, is found in the general appearance of the patient. Dr. M. S. Paterson had done good service in demonstrating the value of intelligent occupation for poor patients, but much remains to be done in the same direction for those in other stations of life.

I now wish to touch upon some points connected with the mental aspect of treatment at sanatoriums of patients holding responsible positions in life. I well remember a plaintive remark made to me some years ago by a patient who, physically speaking, made a good recovery. He said: "Looking around at the other patients when I first arrived at the sanatorium, I said to myself, Shall I become a lazy loafer like all these? And I did." He complained bitterly that the monotonous and isolated life forced upon him for some months had rendered him so slack that, although he had formerly conducted his business with ease and pleasure, he could do so no longer.

Then, again, I am convinced that patients receive too much medical attention. This, added to the self-doctoring in the way of taking their own temperature and so on, which they are encouraged to carry out, engenders a self-consciousness distinctly morbid. Another evil consequent upon the isolated nature of sanatoriums is that patients are driven to discuss their own symptoms as the only topic of conversation. By way of diversion in one sanatorium I was told the physicians at table usually descanted on the relative values of carbohydrates and fats as foodstuffs. Generally speaking, the result of all this is that patients, coming out of a sanatorium full of self-consciousness and slackened by a long spell of idleness, develop into aggressive valetudinarians, unable to resume their former positions in life.

It is with these considerations in view that I now make a protest against the routine practice of sending consumptive patients to sanatoriums. The best results that have come under my notice have been obtained outside sanatoriums. When circumstances permit there is no difficulty in arranging for the treatment of consumptives under a local medical man at home or at private houses suitably situated without danger to those surrounding them. By adopting this course patients are saved the depressing effect of a severance from those they care for, and are guarded from morbid influences met with in sanatoriums. Furthermore, they are able to keep in touch with their business by an occasional visit to their offices or a call from their manager, so that if they should then be restored to health no serious break will have been made in their lives. I should add that I am now referring to patients who are anxious to use all means in their power to recover their health, and are willing to submit to any reasonable regulations stipulated by their medical attendant. In the absence of these conditions experience proves that a favourable issue cannot be expected, whatever be the treatment employed.

In drawing to a close my remarks—of necessity written in a minor key—I will briefly summarise what I have attempted to establish.

*In the Care of Consumptives—*

1. No reliance can be placed on specific remedies.
2. Sanatoriums conducted on rational lines are essential

in the treatment of those consumptives whose life-work is under the direction of others.

3. Consumptives of humble means should be provided for by an extension of the present hospital system, aided by the State and supplemented by additional sanatoriums.

4. The sanatorium treatment, owing to its slacking influence, is not fitted to patients in positions that require the display of initiative and entail responsibility. These patients are best treated apart from others, without isolation from their usual surroundings, and as far as possible in touch with their business.

## SUBCUTANEOUS RUPTURE OF THE KIDNEY; INTRAPERITONEAL HÆMORRHAGE; EXPECTANT TREATMENT; RECOVERY.

BY E. GERALD STANLEY, M.B., B.S. LOND., F.R.C.S. ENG.,

DEMONSTRATOR OF ANATOMY AND CHIEF ASSISTANT, SURGICAL OUT-PATIENT DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL.

THE following case came under my care as surgeon to one of the South American mail steamers, and seems to be of sufficient interest to be recorded.

During August, 1910, an able seaman, aged 49, while engaged in coaling operations, was struck in the region of the lower ribs on the left side in the posterior axillary line by the broken end of a derrick. The force of the blow must have been considerable, for the shaft broke about half way up in the act of hoisting a load of coal, the fixed end swinging round on its pivot in the deck and striking the man in an oblique and overhand manner. When I saw the patient a few minutes after the accident he was lying on the deck gasping for breath and holding his hand to his left side, where he complained of pain. He was carried to the surgery.

On local examination there were some superficial abrasions of the skin over the left lumbar region and lower left ribs behind, respiratory movements on that side being limited by pain. There was extreme tenderness over the seventh and eighth ribs at about their angles; breathing caused pain at these points, and friction and crepitus could easily be heard over these ribs. Physical examination of that side of the chest revealed nothing else abnormal. There was marked tenderness over the whole of the left lumbar region, while abdominal examination showed nothing abnormal beyond a respiratory movement unusually thoracic and jerking in character. His general condition was fair. He was suffering from shock and sweating profusely, but he had been working hard, and the temperature that afternoon was well over 100° F. in the shade. Fracture of the seventh and eighth ribs on the left side was diagnosed, and the patient conveyed to the ship's hospital. I saw the patient half an hour later, intending to apply strapping to the injured ribs. His condition now was very different and somewhat alarming.

The patient had been undressed and was lying in his bunk with his knees drawn up, tossing himself from one side to the other. He was pale, bathed in a clammy sweat, complaining of intense thirst, and repeatedly asserting that he was dying. His pulse was 120, "running," and of poor volume. Temperature 98°; respirations 30 and chiefly thoracic. He complained of continuous pain in the left lumbar region. In other words, the patient had passed unusually rapidly from a state of shock to one of collapse due to internal hæmorrhage.

A rapid but thorough examination of the abdomen revealed rigidity and limitation of movement of the left rectus and oblique muscles, tenderness and rigidity in the left loin, and unmistakable signs of free fluid in the peritoneal cavity. A catheter passed drew off five ounces of bloody urine, and after washing the bladder clear blood-stained urine was withdrawn on two further occasions at an interval. There was no swelling in the loin or any swelling felt per abdomen. A diagnosis of ruptured kidney was made, with intraperitoneal hæmorrhage.

Now in ordinary surgical practice the indications in this case would have been clear for operation, probably nephrectomy; but after a careful consideration of all the circumstances I came to the conclusion that a laparotomy or lumbar nephrectomy would lessen the patient's chances of recovery rather than promote them, and for the following reasons: (1) there was no competent person to anæsthetise the patient; (2) there was no suitable assistant; (3) there was no proper or convenient place in which to operate; (4) it would be highly problematical if asepsis could be maintained; (5) necessary instruments were lacking, especially good retractors, pedicle needles, and sterilised swabs and dressings; (6) the ship was rolling considerably at the time; and (7) lastly, my experience of abdominal surgery was very small indeed. The three chief reasons which convinced me that the patient had a better chance of recovery if left to his own resources were, firstly, the almost impossible task of conducting the operation aseptically; secondly, the lack of any assistance; and thirdly, my want of experience in rapid abdominal operations, and rapidity would have been essential in performing any operation on one so grievously ill. I therefore treated the patient expectantly as follows. Hot bottles were placed round him, the legs and arms were bandaged, and the end of the bunk raised; an ice pack was placed over the left lumbar region, and ¼ gr. of morphia was given subcutaneously and repeated in half an hour. Half a pint of hot saline solution was given per rectum and retained. 1/100 gr. digitalin and 2 minims of liquor strychninæ hydrochloridi were given subcutaneously hourly to six doses, and the patient was allowed to drink as much water as he wished.

During the next three hours the patient seemed desperately ill, the pulse-rate being about 140 but countable, while the temperature fell to 97·2°. The corner was then turned. The pulse-rate remained steady, the pallor of the face gave place to a slight blush, he became less restless, and the shifting dulness had apparently not increased. I considered that it was now safe to infuse him; accordingly one and a half pints of normal saline solution were run into a median basilic vein. No further intraperitoneal hæmorrhage apparently took place. Recovery from this point was slow during the first two or three days; there was much clotting of blood in the bladder with the attendant pain to the patient. Not being able to wash out the clots through a catheter, and having no lithotrite or evacuator, I found much difficulty in dealing with this complication, the patient suffering considerable pain at micturition. The only other complication, and that to be expected, was meteorism, which was painless. It was troublesome to combat, but success was obtained by rectal tubes, turpentine enemata, calomel, and a diet not too fluid and almost free from milk. The patient rapidly replaced his lost corpuscles and left his bunk at the end of the third week. There were never any signs of infection or any swelling in the loin. Oliguria persisted for over a week.

*Remarks.*—The fact most worthy of remark is that the gods appeared to be on the side of the patient, for I have never seen a patient with such severe manifestations of internal hæmorrhage recover without surgical interference. The second interesting point is the rapidity with which the signs of hæmorrhage and collapse supervened upon those of shock, while the third is the question of the treatment adopted. In hospital or ordinary practice no surgeon, I think, would have hesitated to expose the kidney, probably through an incision in the middle line or left linea semilunaris as the peritoneum was clearly torn, control the pedicle, and having ascertained the damage to the organ to proceed accordingly; but after careful thought, and for the reasons given I decided not to perform any operation, and, contrary to my expectations, recovery ensued. One knows that the results of non-operative treatment in uncomplicated cases of injury to the kidney are excellent, but all would be agreed that in a patient with a rapid running pulse of 140, other signs of severe and early hæmorrhage, and shifting dulness in the flanks, operation is the only line of treatment likely to succeed. Next comes the question of stimulation of a patient with uncontrolled internal hæmorrhage with strychnine, digitalin, &c., and later saline intravenous infusion. I believe that if these had not been given the man would have died early from heart failure, and that later the risk of restarting the bleeding by raising the blood pressure by infusions was well worth running, and the result seems to justify the course taken. Finally, one is surprised that peritonitis did not ensue, that there was no effusion demonstrable in the perirenal tissues and no infection in this situation.

With regard to the pathology, subcutaneous injuries of the kidney may be of any variety, from subcapsular hæmorrhage or bruises to complete pulping of the organ with laceration of its vessels. In this case one would guess that there was one, probably more, tear of the parenchyma, possibly involving the pelvis, and certainly the overlying peritoneum. Recovery in these cases is very rare without operation. Thus this patient sailed successfully through the risks and consequences of early and severe hæmorrhage, escaping peritonitis and perinephric infection. What the fate of the kidney may have been it is impossible to say. Probably healing occurred and the organ remained functional, for the patient passed while under observation a normal amount of normal urine; but this fact, of course, does not prove that the renal vessels were not injured and that subsequently thrombosis took place with death of a part of or the whole kidney, for a healthy surviving kidney can, when called upon suddenly, perform the functions of both adequately.

St. Bartholomew's Hospital, E.C.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### A CASE OF MALIGNANT SCARLET FEVER; DEATH IN 30 HOURS; NECROPSY.

BY HAROLD L. PALMER, M.R.C.S. ENG.,
LATE HONORARY CONSULTING SURGEON, MONTGOMERYSHIRE INFIRMARY.

THESE fortunately rare cases are so difficult of diagnosis in the absence of cases of the ordinary type in the same district, that even a brief account of the following case may be of interest.

The patient, a lad, aged 14½ years, residing with his parents in the country, complained on Monday night (August 20th) of feeling unusually tired, and of his legs aching. He vomited once during the night; he, however, went to work the next morning (the 21st) but returned early in the afternoon, saying he was "too weak" to work; he went to bed early and slept well during the night, but next morning he was very ill, and I was sent for. I saw him about noon of this day; he was in bed, lying half over on his left side, "panting breathlessly," as one who had just finished a sharp race. His pulse was very quick, and his temperature was 105·2° F. Careful examination failed to discover physical signs of mischief in any organ. The heart sounds were normal, and the muscular tone was excellent. The throat was normal. There were no glandular enlargements. There was some slight mental confusion, but not more than might be explained by the high temperature. A patchy erythematous rash was observed, strictly limited to the trunk, suggestive of the ordinary scarlet fever rash, but much darker—very like the dusky red, early post-mortem skin-staining. This rash remained unchanged in its character and distribution throughout the illness. There were no petechiæ. The only subjective symptom was aching of the legs. I had no opportunity of examining the urine. Four grains of calomel were given, and measures were adopted to reduce the temperature. The patient had not had scarlet fever, and his mother had not heard of a case being in the neighbourhood. The next morning the temperature was 102·6°; the pulse-rate was slightly lower, but he was panting as breathlessly as ever. The mind was perfectly clear. There were no nervous symptoms of any kind. The pains in the legs had disappeared. The calomel had acted freely; he had vomited twice during the night, but had a fair amount of sleep. He died suddenly the same evening (the 23rd) at 8.15, immediately upon turning on to his left side for his mother to sponge his back.

The post-mortem examination was made by Mr. C. Spencer Palmer, of Redhill, and yielded absolutely negative results. The heart was firmly contracted, the cavities were empty, the muscle was well developed, and the valves were perfect. Upon incision each organ appeared quite normal to the naked eye.

Careful consideration of the clinical history briefly sketched above, taken together with the rapid fatal issue and negative post-mortem examination, led to the opinion that malignant scarlet fever was the cause of death. This view has since been confirmed by the fact that the deceased's near neighbour and boon companion a few days after developed typical scarlet fever of a mild character and is now in hospital. I should like to emphasise with regard to the toxic phenomena (1) that notwithstanding the high temperature, there was no headache, no delirium, and no noticeable nervous symptoms of any kind; and (2) the striking "panting breathlessness" which persisted without mitigation up to the last moment. Most authorities refer to this symptom in varying terms—urgent dyspnœa (Osler), hurried breathing, rapid respiration. Decidedly the toxin of this type of scarlet fever would appear to very profoundly affect the respiratory centre.

My acknowledgments are due to Dr. A. Pratt, of Bletchingly, in whose practice the case occurred, for his kindness in reporting to me the "confirmatory case," and to Mr. Spencer Palmer for the courtesies of the necropsy and his illuminating contribution to the discussion of the diagnostic problem.

Laindon.

### AMPUTATION THROUGH THE THIGH FOR SENILE GANGRENE IN A DIABETIC AGED 78; RECOVERY.

BY J. STEWART, M.B., M.CH. R.U.I.

A MAN was seen by me in April, 1910, for two darkish-looking patches on the inner side of his right great toe which refused to heal. He gave a very usual history—viz., that he had been cutting his nails and in this case touched the quick. His tongue was very dry and brown, and he passed from six to seven pints of urine daily, of specific gravity 1035, and loaded with sugar. I could feel no pulsation in the limb, except in the region of the common femoral, a fact which will be explained later. The patches continued to spread until the whole of the great toe was involved, then the toe next to that, and finally all the metatarsals and the greater part of the sole, the process taking us to the middle of August. The gangrene was of the dry variety at first, but now there were pockets of fluid between the layers of the sole of the foot. There were great loss of flesh and strength, but the most striking feature was the amount of pain complained of. The pain was excruciating and constant, the patient spending the whole night crying and moaning. At the very beginning of the illness I strongly urged amputation, as I had seen five other cases all ending in death. He refused all surgical assistance until August, when the pain was so bad he himself suggested that the leg should be amputated. I agreed, though I thought it hopeless at this stage, and amputated at the junction of the middle and upper third of the femur. A tourniquet was lightly applied, so that there might be as little injury to flaps and blood-supply to them as possible, as I feared gangrene of the flaps if the patient should happily survive. A tourniquet, however, was unnecessary, as no blood-vessel required ligature, with the exception of the superficial femoral *vein*, during the whole course of operation, the above-mentioned being the only ligature applied, and it was needless.

I should say it is a rare occurrence for a major amputation to be performed without a ligature. The amputation was a circular, thus avoiding great length of flap. A small drain was inserted in the inner angle. I have never seen so little shock or pain after an amputation, whether major or minor, the patient sleeping peacefully even the first night.

The wound healed by first intention with the exception of the drain track, which remained open for some weeks, until a small chip of bone was discharged. The patient regained strength and flesh, until finally he reached the respectable figure of 15 st. About six months after the operation a small dry crust formed on the shin of the left leg. This separated, leaving an ulcer, which spread until it was more than 2 inches in diameter in all directions. The patient complained of great pain in the whole course of the leg at this time, and said it resembled the pain he had for some weeks before gangrene set in in the great toe of the amputated limb. He also lost flesh rapidly at this time, and his sleep was broken. I tried all methods to bring about healing, but all ended in failure, and I calculated, if the ulceration progressed, that possibly I might have occasion to

amputate both legs in a diabetic subject. His daughter, however, began dressing the ulcer with boiled mutton fat, and it skinned over, a thin, weak covering, but yet a covering. This took many weeks, but it succeeded, whereas all the surgical methods known to me had failed.

I dissected out the blood-vessels of the amputated limb in order to see the condition of the arteries. The femoral was a solid cord, which on section was lemon-coloured, and showed a series of concentric rings. The popliteal admitted a probe, and the tibials were patent throughout, as well as the arteries of the sole and dorsum. I should surmise that complete, or almost complete, occlusion occurred in the left leg at the time of the formation of the ulcer, but as no walking was allowed and the leg otherwise nursed, the circulation was just sufficient to prevent gangrene.

I saw the patient on the morning of Jan. 20th, 1912, in excellent health. Two hours afterwards he had what his daughter described as a general convulsion, and when I saw him later he was in an unconscious condition, which gradually deepened, and he passed quietly away in his eightieth year. He lived nearly 18 months after his operation, and although sugar was continually present he gained weight, health, and strength, and, with the exception of the ulcer on the remaining leg, enjoyed life in every way.

Leeds.

# Reviews and Notices of Books.

*A System of Treatment by Many Writers.* Edited by ARTHUR LATHAM, M.A., M.D. Oxon., F.R.C.P. Lond., Physician and Lecturer on Medicine, St. George's Hospital; and T. CRISP ENGLISH, M.B., B.S. Lond., F.R.C.S. Eng., Senior Assistant Surgeon and Lecturer on Practical Surgery, St. George's Hospital. In four volumes. Vol. III.: Special Subjects. Vol. IV.: Obstetrics and Gynæcology. London: J. and A. Churchill. 1912. Vol. III., pp. 1194; Vol. IV., pp. 883. Price 21*s.* net each volume.

*Third Notice.*

THE third volume of this important work is the joint production of about 54 contributors, each of them possessing special knowledge in the subject with which he deals. Among these subjects perhaps the largest share of scientific interest attaches to the section entitled Special Forms of Treatment, which occupies the first 374 pages. The full list of the principal headings, under which there are many subheadings, is as follows:—Anæsthetics, Bier's Treatment by Means of Induced Hyperæmia, Climatology, Electrotherapeutics, Hydrology, Hypnotism and Treatment by Suggestion, Ionic Medication, Treatment by Various Forms of Light, Massage, Mechanical Vibration, Physical Exercises, General Principles of Serum-therapy and Vaccine-therapy, Special Applications of Serum-therapy and Vaccine-therapy, Radium-therapy, Treatment by Radiant Heat and Hot Air, Stammering, Voice Production, X Ray Treatment of Skin Diseases, X Ray Treatment of Diseases other than Skin Diseases, and finally Zander Treatment.

In the article on Anæsthetics, which is by Dr. Blumfeld, senior anæsthetist to St. George's Hospital, the author says that the administration of ether preceded by nitrous oxide is an excellent routine measure for those who can have constant practice in the method, using two forms of inhaler which are figured and fully described. For those who only occasionally give anæsthetics he recommends the C.E. mixture consisting of two volumes of chloroform and three of ether shaken together and administered without an inhaler on a Skinner's or Schimmelbusch's open mask. The choice of anæsthetics in special cases, the methods of meeting difficulties and dangers, spinal and local analgesia, and in fact almost all the duties of an anæsthetist, are satisfactorily discussed. In the account of Bier's Treatment by Means of Induced Hyperæmia, Mr. Herbert F. Waterhouse, surgeon to Charing Cross Hospital, expresses his firm conviction that when intelligently applied it is of real value in a great many affections of the upper and lower limbs, and he deprecates the comparative neglect of it by British practitioners. For the treatment of the extremities the principal requisite is an elastic (Martin's) bandage from 1½ to 2½ inches in breadth and wound eight or ten times round the limb. All that is required is a gentle constriction in order to cause a slight obstruction to the return of the venous blood. In diseased areas situated on the trunk to which bandaging is not applicable, such as mastitis, carbuncles and furuncles after incision, and chronic abscesses, dry-cupping may be resorted to.

The long article on Climatology, by the late Dr. William R. Huggard, gives a great variety of information relative to the selection or avoidance of particular regions or localities in cases of impaired health. In the short articles on Electrotherapeutics and the cognate subject of Ionic Medication, contributed by Dr. H. Lewis Jones, of the electrical department of St. Bartholomew's Hospital, many useful hints and suggestions will be found. Under the head of Hydrology, Dr. R. Fortescue Fox, late President of the British Balneological Society, gives copious details relative to treatment by a great variety of natural mineral waters, as well as indications for the use of baths containing brine, mud, peat, &c.; there are also paragraphs on hot-air baths, vapour baths, sand baths, and an index of spas.

The use of hypnotism and mental suggestion in a number of disorders, chiefly of the mental functions and nervous system, is strongly recommended by Dr. John F. Woods, late medical superintendent of Hoxton House Lunatic Asylum, London. He gives elaborate descriptions of the manipulations resorted to by himself and several other hypnotisers, together with a table showing successful results in 2225 out of a total of 2796 cases treated by himself. Under the heading of Treatment by Various Forms of Light, Mr. A. Primrose Wells describes several cabinets and other forms of apparatus used for this purpose. The sources of light in a good cabinet bath, admitting the patient's whole body except the head, are four arc lights having a combined power of over 3000 candles and 16-candle incandescent lamps from 50 to 80 in number. White, red, and blue lights are obtained by the use of lamp globes and glass screens of these respective colours. Mr. Wells says that blue light has a sedative effect in highly excited conditions of nervous exaltation bordering upon acute mania, whilst a red-light bath, on the contrary, is exhilarating and very serviceable in a depressed condition of the nervous system and many phases of neurasthenia; the ultra-violet rays of the electric arc are also known to promote the healing of wounds and to have a useful effect in skin diseases. In the chapter on Mechanical Vibration the same author states that he has used this procedure in various cases of impaired function or local congestion, notably in deafness, asthma, enlarged glands in the neck and elsewhere, and spinal curvature; he has also found that it relieves the pain of fractures and that mechanical vibration of the vocal cords strengthens the singing voice and is an effectual remedy in cases of aphonia. An efficient machine provided with a variety of terminals, illustrations of which accompany the text, is necessary for the application of this treatment. Physical exercises as practised both in preventive and in therapeutic medicine are the subject of a long communication by Dr. Mina L. Dobbie and Dr. Frank C. Shrubsall. Valuable articles on Massage, on Treatment by Radiant Heat and Hot Air, and on the Zander Treatment are contributed by Dr. Gust. Hamel.

The article on the General Principles of Serum-therapy and Vaccine-therapy is by Dr. Arthur Latham, one of

the editors. He states that in a limited number of diseases bacterial exotoxins can be neutralised by antitoxic serums produced in horses and other animals by the injection of increasing quantities of exotoxins; such a serum injected into a patient is said to bring about passive immunity, and the treatment is called serum-therapy. In the case of diseases caused by bacteria producing chiefly endotoxins, an attempt is made to stimulate the formation of antibodies by the injection of a vaccine, which is defined as a pure culture of any micro-organism suspended in normal saline solution and finally sterilised by heating; the process is called vaccine-therapy, and the result is the production of active immunity. Full particulars as to standardising, doses, and methods of administration are given. The article on the Special Applications of Serum-therapy and Vaccine-therapy is divided into a number of subsections, according to the micro-organism concerned, the authors being Dr. Harold R. D. Spitta, of St. George's Hospital, Dr. A. C. Inman, of the Brompton Consumption Hospital, and Dr. Latham.

Next after the Special Forms of Treatment, there comes a series of articles by Professor W. J. R. Simpson, of King's College, London, Dr. C. W. Daniels, of the London Hospital, and others on subjects connected with tropical medicine, including tropical hygiene, tropical fevers, general tropical diseases, abdominal tropical diseases, tropical infective granulomata, local tropical diseases of obscure origin, and tropical skin diseases. The principal subjects contained in the remaining 600 pages of the volume are diseases and affections of the eyes, of the nose, of the pharynx, of the trachea, of the larynx, and of the ear; skin diseases; and dental surgery. It may be safely asserted that the great majority of the monographs in this varied assortment possess decided, if unequal, merit and will be helpful to the practitioner.

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*Military Hygiene and Sanitation.* By CHARLES H. MELVILLE, M.B. Edin., D.P.H., Colonel R.A.M.C.; late Sanitary Officer, Army Headquarters, India; late Secretary and Expert in Sanitation, Army Medical Advisory Board, War Office; Professor of Hygiene, Royal Army Medical College; Member of Council, Royal Sanitary Institute. With diagrams. London: Edward Arnold. 1912. Pp. 418. Price 12*s.* 6*d.* net.

THE chief sanitary authority of the British army in peace or war is the Director-General of the Army Medical Service, and his authority is exercised by him in the form of advice to the Secretary of State for War and the Army Council through the Adjutant-General at the War Office. The position of the director-general and his relation to the chief military authorities is duplicated throughout the service by the relationship of deputy and assistant directors of medical services (lately called principal and administrative medical officers) to commanders-in-chief and general officers commanding divisions, and again by the relationship borne by medical officers in charge of effective troops to officers commanding individual units. Every military officer exercising command has at his disposal a medical officer as his responsible sanitary adviser. The medical officer has no executive authority, except such as is delegated to him as a staff officer of the commanding officer. The latter is responsible for the due execution of the measures recommended to him by the former, and is also responsible for coördinating these measures with the general military situation. Deputy directors and assistant directors of medical services are assisted in sanitary matters by specially selected and specially qualified sanitary officers on whom they rely for the supervision of the details of sanitary administration in the force of which they are in charge, and also, should they feel the need of it, for expert advice. The specialist sanitary officer is a staff officer to the deputy or assistant director of medical services as the case may be, and not to the commander-in-chief or general officer commanding.

Colonel Melville states that this position is sometimes misunderstood, and he offers a very clear and concise explanation which should remove all possible ambiguity. The responsible adviser of the general, he states, in all matters connected with the sick is the principal medical officer (it may be observed that this officer is now named "Deputy Director of Medical Services" in all portions of the British army at home and abroad. The number of sick that will need to be provided for must naturally vary with the extent and efficacy of the measures adopted for the prevention of disease. A very simple illustration will suffice. Suppose a force to be operating in an area where the water is known to be bad. The amount of sickness will greatly depend upon whether measures are taken for the purification of the water. Clearly, if no sterilising apparatus is taken a greater amount of hospital accommodation will be needed. The deputy director of medical services could not logically, Colonel Melville asserts, demand the provision of transport both for his sterilisers and for the increased hospital accommodation necessitated by the fact that the water was bad. If his sterilisation is not going to lessen the sick list the apparatus may as well be left behind. "Obviously," says Colonel Melville, "if there is a condition of divided responsibility—if one man is responsible for the prevention of disease and another for the care and treatment of the sick, duplication of the kind I have just suggested will inevitably occur. The only possible way of avoiding such duplication and the resulting inevitable friction is to keep the two—prevention of disease and the care of the sick—under one man. The principal medical officer may, of course, delegate his sanitary powers very largely to his sanitary officer. He cannot delegate his sanitary responsibility, which is inalienable."

The author offers some very valuable advice in connexion with the duties of executive sanitary officers. The executive sanitary officers of the British army, he states, are the squadron, company, and battery officers. It is on them, and on the extent to which they realise the assistance that sanitation can afford them in the execution of their military duties, that the health of the army ultimately depends. An army that relies on its sanitary officers for its health would be in much the same position as one which relied on its adjutant-general for its discipline. There should be no intermediary between the regimental officer and his men, for if any such is allowed the men and officers will come to look on sanitation as some extra-regimental affair, worthy, no doubt, of the recognition and acceptance due to all such matters, but not recognised as what it really is—an organic part of the regimental life.

The chapter dealing with "marching" is in every way valuable. Colonel Melville gives some useful hints concerning the care of the feet. Close supervision over the feet of the men is insisted upon, and should be to a great extent a disciplinary measure. Repeated foot inspections must be made by the medical officer and company officers. In the majority of cases the soldier who suffers from sore feet is as directly responsible for the accident as the cavalry soldier who rubs or "galls" his horse's back, and should receive the same amount and kind of consideration.

Amongst some of the more important duties that a military medical officer has to carry out are the inspection of barracks and their occupants, and we are glad to note that Colonel Melville offers sound advice on these important inspections, which are most difficult to carry out efficiently. "The closest laboratory acquaintance with the different varieties

of the members of the coli group," the author states, "is of little use to the sanitary officer who does not know the position and condition of the barrack manholes, and the possession of the former item of knowledge is no excuse for ignorance of the latter piece of information." With regard to the medical inspection of the troops that occupy barracks, the medical officer should keep constantly in mind that he is "in charge of effective troops," and it is his business to keep in just as close touch with the man in the ranks as with the man in hospital. He should try to look upon every admission to hospital as an instance of failure on his part until it is shown to be the contrary. Generals and other officers are apt to look upon full hospitals as a sign of activity on the part of medical officers. One such—the author tells us—a short time ago, inspecting a military hospital and finding it almost empty, said to the medical officer in charge: "You don't seem to have much work to do"; to which the other replied: "On the contrary; it is because I do so much that there are so few sick to show." A full hospital, the author observes, is the *opprobrium medici* of the army, and in nine cases out of ten it is full because medical officers fall into the error of thinking that their duty is to the sick man first and the healthy man second. The contrary is the case. The healthy effective man is the most important individual, and the greater the number of these the greater the efficiency of the army. Sanitary duties are very apt to be pushed into the background and allotted to any officer "in addition to his other duties," whereas the first duty of the army doctor is that of the prevention of disease, the second that of treating it when present.

It may be noted, in conclusion, that the book is founded on the lectures delivered by Colonel Melville while professor of hygiene at the Royal Army Medical College. He has not attempted to deal in detail with all the problems of hygiene, and in particular he has omitted—as, for instance, in the question of house drainage—those which are liberally treated in the ordinary text-books. In considering the prevention of infectious diseases, also, he has limited himself to those which he considers the most important in war. He has not, therefore, discussed such ailments as Mediterranean fever and tuberculosis, with which the army is concerned mainly in peace time, under conditions not differing materially from those which confront the medical officer of health in civil practice.

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*Anæsthetics in Dental Surgery.* By FRANK COLEMAN, M.R.C.S. Eng., L.R.C.P. Lond., L.D.S.; and HARVEY HILLIARD, M.R.C.S. Eng., L.R.C.P. Lond. With 6 plates and 38 illustrations. London: H. K. Lewis. 1912. Pp. x.–300. Price 7*s.* net.

THIS is an eminently satisfactory book, designed to meet more particularly the requirements of the dental student, who has now to include the study of anæsthetics in his curriculum, and the dentist, rather than the medical practitioner and the anæsthetist. It achieves this object remarkably well. Practical details are entered into with commendable fulness, and at the same time the scientific side of the subject is kept in full view. We are most favourably impressed with the long chapter—nearly a hundred pages—devoted to nitrous oxide, and are interested to note that Mr. Coleman has only a qualified regard for continuous nasal administration of nitrous oxide. It is obviously not absolutely certain of success, even in hands so experienced in the matter as his. The choice of anæsthetic in the case of various types of patient is well and fully considered; the authors are, we think, not sufficiently emphatic upon the undesirability of ever using chloroform in cases of tooth extraction. The mixture of chloroform and ether to which they refer is in practice most often represented by 2 parts of chloroform to 3 of ether, not as they express it $CE_2$. Some anæsthetists will undoubtedly cavil at the description of "open" ether, in which is mentioned the use of an inhaler with face-piece and valves; moreover, we believe it is quite incorrect to suppose that an atmosphere of 40–50 per cent. ether vapour is either necessary or commonly employed. Professor Waller has shown that about 20 per cent. is the maximum vapour obtained in the ordinary way of giving "open" ether. There is a curious mistake in indexing with regard to p. 293, by which a condition described as due to adrenalin is referred to as a case of novocaine poisoning. The account of local analgesia is particularly complete and correct.

The book is well printed and illustrated, and we believe there is no better manual to meet the purposes for which it is designed.

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*L'Idée de Dieu dans les Sciences Contemporaines: Les Merveilles du Corps Humain.* Par le Dr. L. MURAT, en collaboration avec le Dr. P. MURAT. Paris: Pierre Tequi. 1912. Pp. cxxxviii.–752.

IN the year 1825 the eighth Earl of Bridgewater left by will £8000 to be paid to the author of the best treatise on "The Power, Wisdom, and Goodness of God, as manifested in the Creation." Such work was to be illustrated by the variety of God's creatures in the animal, vegetable, and mineral kingdoms, the construction of the hand of man, and by discoveries ancient and modern in the arts and sciences. The then President of the Royal Society, to whom the selection of the author was left, decided, with the advice of the Bishop of London and the Archbishop of Canterbury, that the sum should be allotted to eight different authors, who should respectively write one treatise. This was accordingly done, and perhaps the best known of the treatises is that by Sir Charles Bell, on "The Hand, as Evincing Design."

The book now before us, which is one of a series entitled "L'Idée de Dieu dans les Sciences Contemporaines," may be called a French Bridgewater Treatise, for its object is to show the hand of God in the construction of the human body and the doctrine of final causes as exemplified in nature. The main portion of the work consists of an anatomical and physiological description of the body and its various parts as exemplifying a superintending intelligence. Thus, in the case of the ear, the authors say, p. 350: "To conclude this study of the ear, how can it be denied that such an instrument proves the existence of a constructor acquainted with all the laws of acoustics, one, moreover, who has applied them rationally (*ingénieusement*), who knows that sound consists in vibrations, and that such vibrations can be transmitted only by certain special intermediate agents ..... and that for the brain to integrate and separate the wonderful diversity of sounds the acoustic apparatus must be connected up by a transmitting nervous system."

The introduction to the book takes up 138 pages and commences with a catena of authorities who have written from the finalist point of view, beginning with the Holy Scriptures and travelling down the ages from Aristotle, Plato, the Fathers, Galen, Mediæval and Renaissance writers, to Pasteur. Much of the introduction is taken up with arguments against "Darwinism," but it must be remembered that much of so-called Darwinism involves opinions which it is doubtful if Darwin ever held. For instance, Darwin never denied the existence of God, a fact which the authors recall (introduction, p. 81). Also, he stated in the introductory chapter to the "Origin of Species": "I am convinced that natural selection has been the main, but not exclusive, means of modification."

The contest between those who believe in final causes and those who do not is one which goes back to the early ages of history. Aristotle was finalist; Lucretius, on the other

hand, was as strongly against the doctrine. The blank materialism of the end of the eighteenth and the earlier years of the nineteenth centuries is nowadays discounted, and the tendency of the leaders of science in all countries is towards a belief in a superintending intelligence, no matter by what name it be called. Nothing in this world is perfect or final, and the human body, wonderful though it is, is not exempt from this law. The Drs. Murat have clearly set out how wonderful the body is, and there must be few medical men who will not agree with them. And yet, to quote the words of St. Paul to the Philippians, as given by the Vulgate, it is but a "corpus humilitatis."

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*A Manual of Poisonous Plants, Chiefly of Eastern North America, with Brief Notes on Economic and Medicinal Plants, and Numerous Illustrations.* By L. H. PAMMEL, Ph.D., Professor of Botany, Iowa State College Agriculture and Mechanic Arts. With 17 plates and 458 figures in the text. Iowa: The Torch Press. 1911. Pp. 977. Price $7.50 net.

THE value of a knowledge of toxicology, not only to the pharmaceutist and the veterinary surgeon, but to all who have to deal with stock, can hardly be over-estimated. The present work, which is a survey of all classes of poisonous plants, is a storehouse of facts that will prove of the greatest help, not only to those directly concerned for economic reasons, but also to the botanist and chemist; and the fact that the plants considered are chiefly North American does not militate against its use in other countries, for the work is so comprehensive that all interested in the subject will find something of value in the book. The volume is divided into two parts, the first of which is a general treatise on poisonous plants, whilst the second is described as a "descriptive manual of the poisonous plants of North America, chiefly of the United States."

Naturally, the first part is the more readable. The first chapter gives a brief general survey of the subject-matter, and includes a short consideration of the use of poisons in ancient times, the rise of chemistry, and the consequent increase in knowledge of matters toxicological. The author draws attention to the importance of the personal factor in the action of poisons; how some people may be mildly poisoned by the smell of the tuberose, for instance, whilst others are quite unaffected. The education of the organism to withstand large doses of toxic substances is referred to; a man, for example, by a system of gradual increments eventually may be unaffected by relatively very large doses of an alkaloid. The author then considers the different kinds of poisons due to specific plants—e.g., opium, cyanogenic glucosides, and saponin. A particularly useful chapter is that which deals with the classification of poisons, their symptoms and antidotes.

With regard to the mode of production of poisons in plants nothing of a definite nature is known, and we are almost, if not quite, in the dark regarding the physiological significance of these highly toxic substances. An important point, which might have received a more extensive treatment, is the influence of external factors on the production of poisons in the plant. Thus, solanin, the poisonous substance of the potato, is formed only in the light, and occurs in the tubers only when exposed. Seasonal variation is also noteworthy—thus the mature corms of the colchicum contain more of the drug than the young ones, while climate and culture play an obviously influential part. It is a well-ascertained fact that a plant which has poisonous properties when growing wild may lose them when cultivated; Phaseolus lunatus (the Lima bean), for example, when cultivated contains very much less cyanogenic glucoside than occurs in the wild plants. The usefulness of the volume is enhanced by the inclusion of a catalogue of the poisonous plants of the world, together with their properties and distribution.

There is a bibliography, not, by the way, quite up to date, of nearly 1100 titles; and, finally, an extensive index. The volume represents an enormous amount of labour, and truly deserves the much abused description of a mine of information.

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*The Main Drainage of Towns.* By F. NOEL TAYLOR, C.E. With over 350 illustrations. London: Charles Griffin and Co., Limited. 1912. Pp. 313. Price 12*s.* 6*d.* net.

Mr. Noel Taylor's manual on this subject will need little recommendation to those who are familiar with the handbook on "Civil Engineering Practice," to which it is a companion. Medical officers of health often find themselves called upon to deal with complaints or inquiries relating to the construction of sewers, house drains, or works for sewage disposal, and in these circumstances it is essential to be able to ascertain from a reliable source the engineering and physical principles involved. They will find this book of great value for the purpose. The initial chapters are devoted to the questions of hydraulics and hydrostatics that are involved in sewerage construction, and are followed by sections on practical work, the form of sewers and their ventilation, sewage pumping, house drainage, sewage disposal works, and similar matters. The exposition is clear and the book is freely illustrated with diagrams and plates. Mr. Taylor writes from wide experience and on controversial matters, such as the ventilation of sewers, he leaves no doubt of his personal views. It may be noted that he does not encourage the now common practice of dispensing with intercepting traps on house drains, principally on the ground that leaks or defects in the house drains cannot always be prevented. Even if the comparative innocuousness of ordinary sewer-air can be assumed, as the Departmental Committee of the Local Government Board has now suggested, its access to dwellings should still be prevented by all practicable means, and there must always be a strong case for retaining the intercepting trap, provided it is efficient and does not cause as much nuisance as that which it is designed to prevent.

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*A Surgical Treatment of Locomotor Ataxia.* By L. N. DENSLOW, M.D., Fellow, New York Academy of Medicine. London: Baillière, Tindall, and Cox. 1912. Pp. 118. Price 3*s.* 6*d.* net.

IN a brief sentence by way of preface Dr. Denslow says that the results he has obtained in the treatment of tabes by surgical methods have been so encouraging that he has been led to lay them before the profession. In the volume under review the author explains that his surgical treatment consists in the incision and dilatation of strictures, the passing of sounds, and the use of mild solutions of argol or copper per urethroscope. This treatment is called for because "in male subjects in every case of this disease without exception an abnormal condition of the urethra exists," consisting of erosions, granulations, and strictures. With this as his starting point, the author proceeds to elaborate a theory of tabes, according to which the disease is due to "peripheral irritation, which, by continuous impulses going on for many years, culminates in exhaustion of the posterior roots and gives rise to tabetic lesions, aided by the syphilitic virus." Though the author says that this continuous peripheral irritation, the existence of which is complacently assumed, may arise either in the urethra or in other parts of the body, there is no hint as to where these other parts may be situated, or as to the essential reason for the irritation. Further, the surgical treatment appears to be devoted exclusively to the urethra, which is unscientific if the hypothesis be correct. The ingenuous suggestion is

made that men suffer from tabes in larger proportion than women because they have a greater extent of urethral surface.

A number of cases are appended by way of furnishing support to the author's somewhat ill-digested views, and not a few of these cases, many of the details of which are too meagre to be of any value, are hailed as "clinical cures," whatever that may mean. As an instance (p. 88), a patient with the characteristic symptoms and signs of tabes (as far as can be judged from the description) was treated by urethral dilatations for some three weeks and apparently improved. "Two weeks later we met him by chance while returning from an excursion on the railroad. This man, who at the commencement of the treatment was almost helpless, showed not the faintest trace of his former condition." Comment on cases examined and described in this casual way is superfluous. Although the volume is a small one, there is much unnecessary repetition in it, and not infrequently the author's meaning is obscured by inexact expression. The important matter of the value of the treatment is couched in language which betrays considerable confusion of thought: "I think my treatment acts upon the greatest number of symptoms" (*sic*), "especially those of deep and cutaneous sensibility, incoördination, equilibrium, pain, and incontinence of urine and fæces."

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*Das Asthma.* By Dr. WOLFGANG SIEGEL (Bad Reichenhall). Jena: Gustav Fischer. 1912. Pp. 164. Price 4 marks.

Dr. Siegel lays down quite clearly at the outset of this volume his conception of "asthma." By this condition he means a syndrome consisting of expiratory dyspnœa, distension of the lungs, and sibilant breath sounds; when these three are absent, he says, then there is no asthma. He particularly excludes cardiac asthma and peptic asthma, which he suggests should respectively be termed "cardiac asthmoid" and "dyspeptic asthmoid." He does not consider that there is such a condition as renal asthma; when dyspnœa occurs in a patient suffering from kidney disease, he believes that the dyspnœa is dependent either upon the heart failure or upon gastric disorder. Dr. Siegel does not draw a sharp line between bronchial and spasmodic asthma, but describes asthma as a reflex neurosis and the asthmatic attack as a cramp of the muscles of the bronchi, which produces secretory changes in the mucous membrane of the bronchi. He further believes that asthma develops on a neuropathic basis, which may either be congenital or acquired.

The portion of the work dealing with the treatment of the disease is particularly interesting. With regard to the means which may be taken to relieve an attack, after mentioning the usual drugs which are employed, Dr. Siegel speaks in high terms of aspirin. He states that if about seven grains are taken directly there is any wheezing in the chest, the attack may be at once prevented. For severe attacks he considers morphia the best remedy. Between the attacks he recommends iodide of potassium, and he states that by the systematic use of this drug many patients can be kept entirely free from attacks. A full account is given of the various mechanical appliances which are used in the treatment of asthma. Inhalation chambers and the compressed air bath are duly discussed. With regard to the former Dr. Siegel is not enthusiastic, and he expresses the opinion that compressed air is of most use when the bronchitic element is pronounced or when there is pronounced emphysema.

This small work contains much that is interesting in regard to asthma, both from a theoretical and from a practical point of view.

## LIBRARY TABLE.

*Studies from the Rockefeller Institute for Medical Research.* Reprints. Vol. XIV. New York: The Rockefeller Institute for Medical Research. 1912. (1) *The Rate of Tumour Growth in Underfed Hosts.*—In studying the relation of nutrition to tumour growth, workers with transmissible neoplasms have frequently observed that sick or emaciated animals are relatively resistant as hosts of implanted tumours. They do not develop with the same readiness as in healthy individuals. Moreschi[1] found that in mice losing weight on a low diet an engrafted sarcoma survived with less frequency and grew more slowly than in the well-fed controls. This being so, the questions arise, May it not be possible to delay by food restriction the course of inoperable tumours? And may not the development of metastases after excision of a primary growth be hindered by the same means? In an attempt to answer these questions Peyton Rous has performed a series of experiments at the laboratories of the Rockefeller Institute, New York, with an adeno-carcinoma of the rat which in its growth and spread bears a striking likeness to some forms of human carcinoma. A bread made of oats, rye, maize, milk, and sugar was baked, dried, ground, and moistened, and used as the sole food of the animals experimented with. Preliminary observations were made on several groups of healthy rats to determine how little of the bread would sustain life during gradual emaciation, and then 110 young growing animals bearing the tumour were submitted, half to food restriction and half to full diet. Animals were mainly used in which the tumour had attained a large size before the restricted diet was begun, whilst in Moreschi's experiments the animals were observed from the time of tumour implantation until death. This might be regarded as an unimportant difference, but contrary to expectation Peyton Rous found that these large tumours continued to grow with the same rapidity in emaciating hosts as in the controls, many of which were still gaining weight. With yet larger tumours and hosts already cachectic food restriction did not retard the primary growth or lessen the frequency of metastasis. Peyton Rous confirmed Moreschi's findings so far as regards the influence of poor nourishment of the host to hinder the development of tumour grafts when food restriction is begun a few days after the introduction of the grafts. It would therefore seem that large tumours take their course irrespective of the condition of nourishment of the host, but whether in animals from whom the primary growth has been removed recurrences will behave like tumour grafts or well-established tumours is a question that has not been answered. (2) *Anaphylaxis.*—This volume contains, also, among other instructive papers, one by J. Auer, on Lethal Cardiac Anaphylaxis in the Rabbit. For the very acute anaphylaxis of guinea-pigs, when the second injection of serum causes death within a few minutes, Auer has stated the cause of death and indicated one kind of treatment. It might be assumed that acute anaphylactic death in other species of animals was due to the same causes as in guinea-pigs, but it is interesting and instructive to hear from the author that this is not so. A guinea-pig dies from stenosis of the finer pulmonary air-passages; a rabbit shows practically no signs of pulmonary stenosis, and yet it dies as rapidly as the guinea-pig. The characteristic drop of blood pressure in the dog is not found in acute anaphylaxis in the rabbit or guinea-pig; the large, pale, fully inflated lungs of the guinea-pig are not found in the dog or rabbit; and again, the rigor of the heart muscle in the rabbit is not seen in the dog or guinea-pig. It is stated that there are numerous other differences, and that each species of animal must be

[1] Zeitschrift für Immunitätsforschung, 1909, vi., 651.

"measured with its own yardstick" when examined for anaphylaxis. The diagnosis of anaphylaxis is justified only when a second injection of the substance used for producing hypersensitiveness causes signs and symptoms which are not obtained when the same substance is injected into an untreated animal. It is to be regretted that this fundamental conception has been lost sight of in much recent work, and a toxin which, produced by various biological manipulations from *normal* sera, causes death when injected into *normal* guinea-pigs, is clearly misnamed anaphylatoxin. A true anaphylatoxin must be biologically isolated from the blood or tissues of an animal suffering a true attack of anaphylaxis, and this substance must not be found in normal animals but it must produce the typical symptoms when injected into them. A point of practical importance which the author brings out, but which must be viewed with caution in view of the differences of behaviour in the several species of animal hitherto used in experiments, is that cardiac stimulants of the digitalis group seem to exert a harmful effect when injected into rabbits suffering acute anaphylaxis. The volume contains 54 reprints in all on a great variety of subjects in experimental medicine and pathology.

*Stomatology in General Practice. A Text-book of Diseases of the Teeth and Mouth for Students and Practitioners.* By H. P. PICKERILL, M.D. Birm., L.D.S. Illustrated. London: Hodder and Stoughton. Pp. 268. Price 15*s*.—In the preface of this book the author remarks that "there is a somewhat ill-defined territory lying between medicine and dentistry, which to many practitioners is to a certain extent a *terra incognita*," and "to throw a beam of light across this territory" for both medical and dental practitioners has been the author's object. We are inclined to think that the author might have produced a more useful work if he had aimed at supplying the wants of the general practitioner of medicine. As far as the dental practitioner is concerned there is hardly anything contained in its pages (with the exception of the author's recent researches) that cannot be found in the text-books in current use. From the point of view of the general practitioner the information is in several respects insufficient. For example, we do not think that the medical man will glean a very clear idea of either "caries" or general peridontal disease from the accounts given of these conditions. Oral sepsis and its effects are well described, and it is quite clear that the author considers a septic condition of the mouth as a potent factor in the causation of "every-day" disease. Now, believing this, it is difficult to understand his advocacy of collar crowns and bridges, appliances which must create stagnation areas and therefore potential foci of infection. At the same time the book contains a considerable amount of useful information and distinctly shows the originality of the author. The classification of oral tumours is interesting, as is the scheme showing the possible destination of the individual groups of epithelial cells in the Zahnleiste. The operation, however, suggested for the treatment of pyorrhœa alveolaris by excising the gingival tissues can hardly be claimed as original, for it has been frequently adopted.

## MISCELLANEOUS VOLUMES.

THE proper care of the skin in health is as important as the proper care of the teeth, but many persons who, for æsthetic reasons, would never neglect their teeth, habitually neglect their skins as a whole. Dr. W. ALLAN JAMIESON, in a little book entitled, *The Care of the Skin in Health* (London: Henry Frowde and Hodder and Stoughton. 1912. Pp. 109. Price 2*s*. 6*d*. net.), gives a succinct account of the structure of the skin and hair, with clear instructions how best to keep them in condition. The book is divided into four chapters, the Structure of the Skin, the Care of the Skin, the Care of the Hair and Nails, and Clothing and Diet. The structure of these organs is expressed with a lucidity that should make the subject comprehensible to any intelligent person. With regard to the care of the skin, Dr. Jamieson considers that under ordinary circumstances, as regards the daily morning bath, at any rate, the habitual use of soap for the ablution of the body and limbs is certainly a mistake, however necessary it may be to remove the dirt that accumulates on the uncovered portions of the organism. He is especially insistent on this point in regard to infants. He discusses the bath at length, laying down sound deductions as to the conditions that should govern the temperature in relation to the varying needs of different individuals. While conceding that there may be something in the belief that for youths and adults it is beneficial to dispense as much as possible with headgear, he protests against carrying the practice too far, especially in the case of infants, for whom a soft head-covering is imperative in our climate out of doors. ——Another book on the same subject, and with very nearly the same title—viz., *The Care of the Skin and Hair*, by WILLIAM ALLEN PUSEY, A.M., M.D., Professor of Dermatology in the University of Illinois (New York and London: D. Appleton and Company. 1912. Pp. 182. Price 2*s*. net.)—discusses with sound sense and in pleasing style the structure, nutrition, and functions of the skin; the general health in relation to the care of the skin—bathing, diet, and so forth; the local care of the skin and the use of cosmetics; common disorders of the skin, and certain defects, such as warts, moles, and freckles; also the structure and functions of the hair, the hygiene of the barber's shop, greyness and loss of hair, and superfluous hair. This, like the preceding book, is intended as a hygienic manual for the laity, and is commendably opposed to all exaggerated faddism.——Useful notes for students and practitioners on essential points in dermatology are to be found in *Golden Rules of Skin Practice*, by DAVID WALSH, M.D. Edin. (Bristol: John Wright and Sons, Limited; London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1912. Pp. 116. Price 1*s*.), which is now in its fourth edition, carefully revised and brought up to date.

The masters of merchant ships which do not carry a surgeon are often called upon to treat members of the crew for injury or disease, and should have a knowledge of the properties and uses of the drugs which they carry. By the Board of Trade regulations they are now required to furnish satisfactory evidence of competency in these respects, and the Board has issued the fifteenth edition of *The Ship Captain's Medical Guide*, edited by CHARLES BURLAND, M.D., F.R.G.S., senior medical inspector of the Board. (Published by His Majesty's Stationery Office. Pp. 214. Price 2*s*.) The details of treatment set forth are necessarily of a simple character and limited to the official medical chest. Much in treatment has not been touched upon as being unsafe for any but medical men to attempt, and the book continues to aim at fulfilling the functions of a guide in circumstances which render qualified professional advice unobtainable. Beri-beri, a disease responsible for many fatalities among Asiatic crews of vessels trading to Eastern ports, has been dealt with in this edition by Dr. Fleming M. Sandwith. There is a new chapter on the subject of venereal disease, and Professor Schäfer's method of artificial respiration replaces Silvester's described in former editions. The ship master is enjoined to struggle hard and actively to *prevent* disease, and when called upon to *cure*, carefully to adopt the directions given in the book, meagre as they may appear, and to believe that his humble efforts

to restore health and prolong life will receive safe and splendid backing from the wonderful hand of Nature.——In THE LANCET of April 27th Dr. JOSEPH BYRNE'S work on "The Physiology of the Semicircular Canals and their Relation to Sea-sickness" was the subject of a short review, and there is necessarily some overlapping in a recent work by him entitled *Sea-sickness and Health, a Manual for Travellers* (London: H. K. Lewis. 1912. Pp. 128. Price 4*s.* net.). In this latter work the susceptibility to sea-sickness in animals and man is dealt with, and it would appear, according to the author, that "the habit of lying about susceptibility to sea-sickness is not confined to children and vain youth." The sea lays many a man low, even those who say "they never missed a meal." The effects, causes, recovery from, and unsatisfactory methods of present-day treatment are referred to. Practical hints on prevention and treatment are added, and then the author devotes about 30 pages to what is practically a short epitome of the physiology of digestion. Under practical hints much attention is paid to an American proprietary preparation for sea-sickness. Elsewhere the author speaks of those misguided people who have "recourse to objectional nostrums so freely advertised." In the appendix there is a dissertation on the pay of ship surgeons, and in the text a tirade against taking children to picture palaces. These references must have relation to the second half of the title, "Health."——It has recently been noticed that those interested in gardens and flowers grow daily in number. For this increase there are perhaps two chief reasons—one the attention now paid to nature study in schools, the other the fact that as the town worker is driven more and more into the country his love of gardens is stimulated by contact with nature, while his opportunities for studying and growing the objects of the vegetable world increase. Two little books, the first volumes of Wild Flowers in their Homes Series, *Wild Flowers of the Wood* and *Wild Flowers of the Hedgerow*, by W. PERCIVAL WESTELL, D.Sc., F.L.S. (London: T. Werner Laurie. 1912. Each with 6 coloured and 20 black-and-white illustrations. Pp. 95 and 93 respectively. Price 1*s.* net each), are exactly suited to put in the pocket for reference during a ramble in the country.——To those who have gardens, *A Year's Gardening*, by BASIL HARGRAVE (London: T. Werner Laurie. 1912. Pp. 272. Price 6*s.* net) will prove a useful companion, as it gives concise directions for the culture of fruit, vegetables, and flowers, shows what to do each day, and contains an alphabetical descriptive list of flowers, with hints on their culture. The numerous illustrations suggest, among other things, how an ugly corner of a garden or an unsightly building may be made a thing of beauty.——For those who make carnation growing a special hobby, *The Perpetual Carnation*, by MONTAGU C. ALLWOOD, F.R.H.S., with a chapter on the American System of Carnation Culture by GEORGE W. ALLWOOD (London: The Cable Printing and Publishing Company. 1912. Pp. 210. Price 3*s.* net.), will be found a practical account of the methods of growing a much appreciated flower. The book is well illustrated and contains a calender of operations.

## JOURNALS AND MAGAZINES.

*School Hygiene.* London: Adlard and Son. Price 1*s.* net.—The August number contains a paper by Dr. J. H. Sequeira on the Treatment of Ringworm, which was read before the Medical Officers of Schools Association, and should be most useful to all school doctors. The statistics of the treatment by X rays at London Hospital are given from September, 1905, to May, 1912. 2609 cases of tinea and favus (57 of the latter included) have been treated. Since June, 1906, the dose of X rays has been measured by the Sabouraud pastille, and since September, 1906, there has been no case of permanent alopecia. Six cases occurred previously; there was no case of X ray dermatitis and no other bad effect of any kind. Dr. Sequeira points out that "it is essential to remember that X rays have no curative effect on the ringworm; they simply bring out the affected hairs. Hence great care must be taken against infection while the hair is falling." The report of the discussion follows. There is also a paper by Dr. S. Barwise on the Treatment and Distribution of Ringworm in Derbyshire, the records of the cases are given since 1906, with the distribution according to schools and the duration of the disease. 29·3 per cent. lasted three months, 19·5 per cent. nine months, and 34·5 per cent. six months, X ray treatment has been undertaken since June 15th, 1912. Dr. E. Bellingham Smith records the results of the examination of 95 cases of defective speech. The total number of children from whom these cases were taken was 4631—3816 English and 815 Jewish. These 95 cases fell into three groups—(1) those presenting organic defects of articulatory mechanism, 21; (2) those presenting functional defects, 76; and (3) those due to lesions of the central nervous system, 3. As these numbers add up to 100 the groups presumably overlap. An article by Dr. F. J. Poynton emphasises the importance of rheumatism in school medical inspection, says that acute dilatation may be an early symptom of rheumatism, and advocates the establishment of "sanatoria" for the convalescence of rheumatic children. There are some good reviews; a report of the Conference on Diet in Schools held at the Guildhall in May, 1912; and suggestive articles entitled the Danish Cripple School System, and Are Bright Colours Preferred by Children? by Dr. F. C. Shrubsall and Mr. C. W. Hogarth respectively.

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LITERARY INTELLIGENCE.—Messrs. D. Appleton and Co. announce for publication on Sept. 18th the eighth edition of "The Principles and Practice of Medicine," by Sir William Osler, Bart., M.D., F.R.S. This new edition has been entirely rearranged and rewritten. All the sections have been revised in the light of recent advances in medicine, and many new sections have been added.—A text-book for the use of health visitors, school nurses, members of guilds of help, and other charitable associations is announced for immediate publication by Messrs. P. S. King and Son. The author, Mr. C. W. Hutt, is senior education medical officer to the Brighton education committee.—Messrs. J. and A. Churchill announce the following new works and new editions: "Meat Hygiene, with Special Consideration of Ante-mortem and Post-mortem Inspection of Food-Producing Animals." Second edition. By Richard Edelmann, Ph.D., Professor at the Royal Veterinary High School in Dresden. Translated by John R. Mohler, A.M., V.M.D., Chief of Pathological Division, United States Bureau of Animal Industry; and Adolph Eichhorn, D.V.S., Senior Bacteriologist, Pathological Division, United States Bureau of Animal Industry. With 152 illustrations and five coloured plates. "A Treatise on Tumours." By Arthur E. Hertzler, M.D., Ph.D., Assoc. Professor of Surgery in the University of Kansas. With 538 illustrations and eight plates. "Mother and Baby: Outlines for a Young Mother on the Care of Herself and Her Baby." By Selina F. Fox, M.D., B.S., Senior Physician of the Bermondsey Medical Mission for Women and Children. With 25 illustrations.—The second volume (which is the first to appear) of "Studies in Cancer," conducted under the George Crocker Special Research Fund at Columbia University, will be published shortly by Mr. Henry Frowde. The volume deals with pathology.—Messrs. Partridge and Co., Limited, announce a new handbook for probationers, entitled "First Steps to Nursing." It warns prospective nurses of pitfalls to be avoided, and instructs them in preparation for their work. It will be published at 1*s.* net.

# THE LANCET.

*LONDON: SATURDAY, SEPTEMBER 14, 1912.*

## The National Insurance Act.

THE Regulations made by the Insurance Commissioners as to the administration of medical benefit will shortly be published. Their final form will still take some days for settlement, and while the delay is distinctly embarrassing, it is fair to remember that those engaged upon the work have a momentous task, every detail of which has to be scrutinised anxiously. The synopsis of matters to be considered in connexion with the framing of regulations as to medical benefit and other medical questions under this Act has long been in the hands of certain members of the medical profession, and some of those who have throughout been helping the Insurance Commissioners in their labour, to whom, of course, its contents are very familiar, have regretted openly that the 15 white papers connected with the synopsis have not been put before the medical profession. The synopsis summed up, after all, what is largely common knowledge. However, the documents are still to be regarded as "confidential," and only common knowledge reveals the difficulties of organisation with which the Commissioners have had to deal.

The duty of the Commissioners in framing regulations is, of course, restricted by the Act—that is to say, that the Regulations must meet the requirements of the particular sections to which they are directed, and new principles cannot be imported into them. On the other hand, the Act confers an almost unlimited discretion upon the Commissioners, whose natural object would be to fall in with the views of the profession, without whose coöperation any legislation to insure against national invalidity must be ridiculous. Further, it has been stated more than once for the Commissioners that the Regulations would certainly meet the requirements of the medical profession by providing in some adequate manner for the minimum demands of the British Medical Association, demands which have been endorsed by the vast majority of the medical profession. The opinion of many members of the medical profession is known to be that nothing in the Act forecasts regulations that can safeguard the medical profession from spoliation. Others, notably those who did not desire that the medical profession should break off all negotiations with the Commissioners while their coöperation might serve to keep the medical side in its due place of urgency, have thought that within the terms of the Act the minimum demands could be substantially met.

Peace or war will be decided by the impression created by the Regulations, especially as to how far they meet the just resolution of the medical profession to obtain adequate remuneration. It may be entirely necessary for the medical profession to withdraw from coöperation in the working of the Act, while offering to the public an alternative scheme of a public medical service. But it is essential before taking this extreme step to count the cost very carefully, to estimate the advantages as well as the disadvantages which may present themselves under the Regulations, and to look closely into the differences which exist between the minimum demands and the provisions of the Insurance Commissioners. We cannot feel hopeful that the decision will be for peace, and if justice demands war we must not think of expediency; but most urgently we put forward the claims of deliberation, full calm, and as provident as may be.

## Stuffiness.

AMONGST the addresses delivered by presidents of sections at the meeting of the British Association for the Advancement of Science at Dundee, those of Professor ADAMS in the Education Section, of Professor ELLIOT SMITH in Anthropology, and of Dr. LEONARD HILL in Physiology, presented the most points of interest to medical men, while Professor ARTHUR KEITH'S popular lecture was also of great medical importance. Professor ADAMS pointed out that the hope of the evolution of education as a science lay, not in a too rigid alliance with psychology, but in the establishing of an objective standard and in the proper manipulation of the methods of experiment. Professor ELLIOT SMITH, in dealing with man's history and achievements, more especially that history which comes within the scope of the last 60 centuries, remarked that evolution yielded a surprisingly small contribution to the interpretation of the difficulties which present themselves. Most of the factors concerning the history of man and his works were the direct effects of migrations and the intermingling of races and cultures. In short, the forces of evolution, though still operating, act very slowly, and need vast spans of time for the production of their effects. At the dawn of the Tertiary period there were developed the germs of all the psychical greatness which, in the million or so of following years, have culminated in the human mind, and it is very wholesome, at a time when so many talk glibly of evolution, as if it were an example of "repairs while you wait," that we should be reminded of all that can be said with certainty as to its procedure and effects.

The sectional presidential address of Dr. LEONARD HILL, which had no distinctive title but ranged over a wide variety of topics, possessed a very direct and practical interest for members of the medical profession as well as for the general public. He invited his large audience to accompany him "in the consideration of nothing higher than a stuffy room." He combated the popularly held idea that the effects produced by a long sojourn in an ill-ventilated room are due to some change in the chemical quality of the air, be it want of oxygen or excess of carbon dioxide, the addition of some exhaled organic poison, or the destruction of some subtle property. The good effects of open-air treatment and

mountain air are usually ascribed to the chemical purity of the air, but the truth, according to Dr. HILL, is that the health-giving properties are those of temperature, light, movement, and relative moisture of the surrounding atmosphere, making allowance also, and of course, for the absence of the gross chemical impurities which arise in mines, factories, as well as freedom from bacterial infection. The alterations in chemical composition of the air in buildings where people crowd together and suffer from the effects of ill-ventilation have in Dr. HILL'S view been sadly exaggerated, so that, obsessed by the popular idea, the ventilating and heating engineer strives to obtain in our dwelling houses and places of business chemical purity of the air and a uniform draughtless summer temperature. The matter is one of the greatest significance in medicine, and, in so far as details remain open for debate, we should welcome a full discussion of them that a consensus of opinion might be arrived at. We cordially agree with Dr. HILL that the modern tendencies to avoid draught and overheat the air of our living rooms are bad. The bracing effect of cold is of supreme importance to health and happiness. We become soft and flabby and less resistant to the attacks of infecting bacteria in the winter, not so much because of the cold, but because of our excessive precautions to protect ourselves from cold, and chills are less often due to exposure to cold than to the overheated and confined air of rooms, factories, and meeting places. Of the 711 survivors saved from the *Titanic*, many insufficiently clad, and after hours of exposure to cold, only one, Dr. HILL reminds us, died after reaching the *Carpathia*. Exposure to cold did not cause in the survivors the diseases commonly attributed to cold.

What, asks Dr. HILL, is the use of the State spending a million a year on sanatoriums and tuberculosis dispensaries, when the very conditions of work—such as that of clerks, cashiers (cloistered in a sunless, windless pay-box), and other closely confined workers—continue, whereby immunity is lessened and the infection of the workers is increased? That is a very pertinent question, and although the luxurious and enervating conditions of much of modern urban life play their part, the answer does not wholly turn on their consideration. We should much like to have this matter threshed out. Dr. HILL'S experimental evidence to show that the chemical purity of the air is of no importance, whether it be the reduction of oxygen or the increase of carbon dioxide, or both, proved a proper resolution not to mistake the commonly accepted for the proven. It was generally supposed, he said, that $CO_2$ was a poison, and that any considerable excess had a deleterious effect upon the human body—"no supposition could be further from the truth." As regards the results of experiments on animals, those experiments, he held, showed that the temperature and humidity of the air, and not the percentage of carbon dioxide or oxygen, were the determining factors which made for ill-health, and that "all the efforts of the heating and ventilating engineer should be directed towards cooling the air in crowded places and cooling the bodies of the people by setting the air in motion by means of fans." "The ill-conditioned body, anæmic complexion, and undersized muscles, or the fat and gross habit, the decay of teeth, the disordered digestion, the nervous irritability and unhappiness are the result of 'nurture,' not nature," is the pithy sentence that brought to a close this instructive, practical, and suggestive address. How far the ills attributed to organic poisons in expired air exist is a matter which requires further discussion, while the doubtful attitude of medical men is not helpful to the public.

## An Examination for Smoke Inspectors.

ABOUT ten years ago we heartily endorsed the movement in favour of the registration of plumbers, on the ground that scientific sanitary practice is dependent for its efficiency on the capacity of the workers in the lower grades. Unless their craft work is well and truly done, the sanitarian's strategy against the foes to general health is vain. The community cannot sit idly by and continue for ever to entrust to incompetent hands work on whose adequate performance the public health depends. The dangers of the smoke problem are now prominently considered as a factor in the public health, and it is natural that the course of evolution which was followed with regard to plumbers' work should obtain also with regard to smoke inspection. First comes the awakening of the public conscience in regard to an evil affecting the community at large, quickly followed by an attempt to grapple with it. Then the necessity for a test of competency of those engaged in the work is recognised. This leads to the establishment of an examination test for those who engage in the work, with a certificate of success where warranted. Those thus certificated acquire a natural advantage in the competition for employment, which leads in due course, after a transition stage, to a licence for the work being granted only to those who have shown themselves qualified. It is with some gratification that we learn, therefore, that the Royal Sanitary Institute has decided to arrange a special examination and to award certificates to those desirous of becoming candidates for the post of smoke inspector, for more than ever the preservation of the purity of the atmosphere is now becoming recognised as a sanitary measure of prime importance. The Institute has done wisely in not attempting too much at first, as a glance at its syllabus will show. There are no bars high enough to keep out any practical and competent person, for it cannot be held that the preliminary requirements are unnecessary. Unless a man can write legibly and spell correctly, be able to make an outline sketch to scale, read ordinary building plans, and possess a fair knowledge of arithmetic, he could hardly draw up an intelligible report on his work and the results of his inspections; and this is the limit of preliminary requirements. As to technical knowledge, the syllabus includes an acquaintance with the laws, by-laws, and regulations affecting the emission or prevention of smoke and the methods of procedure in dealing with offenders; a knowledge of the general principles underlying the production and transmission of heat and of the elementary chemistry of combustion; of

fuels of various kinds; of the construction, types, and purposes of furnaces; of the anatomy and physiology, so to speak, of chimneys; of the principles and practice of stoking; of the nature and composition of smoke, its formation and predisposing causes, its effects on the atmosphere, on vegetation, and on buildings, with the various methods of smoke prevention and conditions of smokeless combustion; of the measurement and qualitative estimation of smoke, as well as of the gaseous products of combustion; of the various industries concerned in the production of smoke and the emission of gases; and of the outlines of the application of gas, oil, and electricity for the production of industrial power. The Institute has appointed a strong board of examiners for Great Britain and Ireland composed of 40 men of established position as sanitarians, under the chairmanship of Mr. A. WELLESLEY HARRIS, M.R.C.S., D.P.H., with Mr. A. WYNTER BLYTH, M.R.C.S., as registrar. The first appointed examinations will take place in Manchester on April 18th and 19th, 1913, and in London on May 2nd and 3rd, 1913, under regulations which seem eminently fair and reasonable. The particulars can be obtained by intending candidates on application to the Royal Sanitary Institute, 90, Buckingham Palace-road, London, S.W. The action of the institute is a progressive move in the right direction.

# Annotations.

"Ne quid nimis."

## DIET IN OUR SCHOOLS.[1]

THE report of the conference on diet in secondary schools, which was held at the Guildhall in May last, has now been published, and a very instructive and comprehensive volume it is. In certain respects the conference itself was disappointing because the important papers on which its deliberations hinged were "taken as read," and the time of the meeting was occupied, if not wasted, by a series of disjointed criticisms and personal reminiscences, often inapposite and generally tedious. The report itself, however, is full of interest, for, in addition to a verbatim transcript of the proceedings and a complete reproduction of the papers themselves, it contains a full description of the display of exhibits representative of many new phases and aspects of school hygiene which were on view at the time of the conference in one of the galleries of the Guildhall. Now that this full report has been published we are in a better position to judge of the value of the work done by the conference as a whole, and we are bound to admit that after reading this report we have considerably modified the opinion which we originally formed. It will be remembered that the conference was convened and organised by the National Food Reform Association. A quite strong and independent committee of specialists were actually responsible for the final arrangements, but it is to Mr. Charles E. Hecht, the secretary of the Association and the editor of the present report, that the praise is due for the success of the conference, as well as the entire credit of the undoubtedly valuable report itself. It clearly emerges from the papers, notably from those of Dr. Clement Dukes and Dr. Cecil B. Reddie, that lack of knowledge as to properties of foods and the physiological requirements of growing boys and girls is not the cause of the improper and inadequate feeding which is too common in our schools despite the enormous improvement in every direction that has taken place in recent times. What is wrong is the business management of the catering department—in a word, the housekeeping. In addition, many parents are greatly to blame; the pampered life of many of our children at home does not fit them for the plain, wholesome fare of a properly conducted school *cuisine*, and this drives many a boy, and girl too, to the tuck-shop. The tuck-shop is of course universally condemned, and fared badly at the conference. Yet a well-conducted tuck-shop has its points, and why, in spite of all the demerits of the ill-conducted institution, is it still allowed to exist? It still exists, not from want of knowledge, but from want of initiative in our headmasters and from the force of custom and tradition. Points on which all speakers were agreed were that greater variety must be introduced into the dietaries, that vegetables and fruits should bulk more largely in the programmes, that large quantities of meat were not essential, that more time should be allowed for meals, that more trouble should be taken in the amenities of the table, and that the food should be presented in a more appetising form. The psychology of appetite and digestion is a department of dietetics which certainly deserves more attention not only on the part of caterers for schools, but on the part of the public at large.

[1] Our Children's Health at Home and at School, being the report of a Conference on Diet and Hygiene in Public Secondary and Private Schools held at the Guildhall, May 13th, 1912. Edited by Charles E. Hecht, M.A. National Food Reform Association. 1912. Pp. 466. Price 5s. 6d.

## THOMAS THE FRANK: A COURT PHYSICIAN OF THE FIFTEENTH CENTURY.

SOME interesting manuscripts affording new information relating to the adventurous career of Thomas the Frank, who at one time was medical adviser to Humphrey Duke of Gloucester, and subsequently to Charles VII. of France, have recently come to light. Thomas originally came from Coron, in the Morea, and so was of Greek extraction. Under the cruel dominion of the Turks he, like thousands more, left the East and came to Western Europe, and resided there until his death, in France, in October, 1456. In addition to his qualifications in medicine he had a high reputation as a humanist scholar, both in Italy (where he doubtless stayed before coming to France), in France, and in England. Scholars dedicated their new books to him, and manuscripts bearing such notices are in collections both in Paris and in Rome. Among these dedications is one by an Italian *savant*, Maffeo Vegio, who writes of Thomas the Frank thus: "ad egregie virtutis virum Thomam Franchum, Christianissimi regis protophysicum." Documents concerning Thomas's relations with his last Royal master were published several years ago from the French State archives, showing that his emolument was 20 louis per month, and indicating that his employment at the French Court commenced in 1450. The new material for his biography concerns Thomas the Frank's connexion with England, and to a certain extent explains how it originated. The first of these documents is a letter of recommendation for Thomas from a certain Roland de Talentis, secretary to Castiglione, Bishop of Bayeux. It is addressed to "Magistro Thome Greci," was forwarded by the hands of one Jehan Senot, and commends Thomas to the good service of a certain Antonio. This personage evidently was Antonio Beccaria, secretary to Humphrey Duke of Gloucester. Although the letter and another mutilated one to Thomas are undated it is safe to conclude that they were written prior to 1441, when the Duke became politically insignificant after his Duchess's condemnation for sorcery. That Thomas the Frank, who later served Charles VII. of France, was the same personage who had formerly been

Court physician to France's hereditary foes, the Royal family of England, is now proven by a document in the Calendar of Patent Rolls, Henry VI., II., p. 604, wherein a letter of naturalisation according the right of residence by permit of the King is granted to "delecto nobis Thome Franc Magister in Medicina de Grecia oriundo."

## THE FORMATION OF AN ARTIFICIAL VAGINA.

THE numerous plastic operations which have been performed by different surgeons for the formation of an artificial vagina are nearly all unsatisfactory, since it is almost impossible to prevent the subsequent shrinkage and closure of the new canal. The attempts that have been made to cover the raw surfaces with flaps of skin or of peritoneum or by skin-grafting have proved disappointing. In order to overcome these defects Gersuny devised and practised a method of covering the anterior surface of the newly formed vaginal canal with an excised portion of the mucous membrane of the anterior rectal wall, the defect in the rectum being closed with sutures, and in some cases the raw posterior wall of the new vagina being covered with skin-grafts. This procedure is not infrequently followed by the formation of a recto-vaginal fistula, and this is not surprising when we remember that the septic surface of the rectal mucous membrane is in contact with the raw surface of the posterior wall of the new canal. For this reason, and because even by this method subsequent shrinkage is not prevented, the operation cannot be considered to be a satisfactory one. The latest development in this branch of surgery has been the utilisation of a loop of intestine to form the lining of the new canal. In spite of the perfection to which abdominal surgery has attained at the present time, it is obvious that such a procedure, involving as it does the opening of the abdomen, the excision of a suitable portion of the small intestine, and the union of the divided ends, must entail a considerable amount of danger to the patient and is not to be lightly recommended. With a view to avoiding these dangers Schubert has devised an operation (described in *Zentralblatt für Gynäkologie*[1]) in which he makes use of a portion of the lower end of the rectum as a lining for the vagina. The new vagina is formed in the usual manner by dissection between the rectum and the bladder. The rectum is then divided circularly immediately above the sphincter ani and separated from its surroundings for about 3 cm., the sphincter being left uninjured. With the patient in the lateral position an incision is then made over the coccyx and that bone excised. The rectum is separated from its attachments for a distance of about 12 cm. from the anus, care being taken not to open the peritoneum. The bowel is then divided between two clamps, and the upper end of the lower portion closed by sutures and attached by means of a couple of catgut sutures to the pelvic fascia so as to maintain it in position. The lower end of the separated portion of the rectum is then drawn down into the newly made vagina and united by sutures to the margins of the vulvar orifice. The cut end of the proximal part of the bowel is also drawn down and sutured to the divided portion of the rectum just above the sphincter so as to restore its continuity. Healing, as a rule, takes place readily, and as there is no interference with the sphincter beyond stretching it there is no tendency to incontinence of fæces. This operation has now been successfully performed in a small number of cases, and while it is not without its drawbacks it seems to form the best solution of the difficulties attending any attempt to form an artificial vagina. It certainly avoids the dangers incidental to the excision of a portion of the small intestine through the abdomen, and provided that not too large an area of the rectum is excised for the purpose of lining the new vagina there is no difficulty, as a rule, in drawing down the upper end of the bowel to the anus and so restoring its continuity. The fact that the new canal is entirely lined with mucous membrane does away, to a very large extent, with the difficulty of keeping it open, and its tendency to contract is much more readily dealt with. As a general rule, no attempt should be made to create an artificial vagina in a case of absence of this canal in an unmarried girl, but in the cases which occur from time to time in which a woman has married without being aware of her defect such an operation as that devised by Schubert might be quite justifiable.

[1] No. 28, 1911, p. 1917, and No. 7, 1912, p. 198.

## AUGUST AT HOME AND ABROAD.

AUGUST of last year set up a record for heat in this country, and August of this year broke the low temperature record. August of 1911 was also very bright and dry, while the past month was one of the dullest and wettest ever known. The lack of sunshine and the persistent rain, like the low temperature, were not confined to one part of the kingdom, but were very general, although, owing to the disastrous downpour in East Anglia on the 26–27th, that district had a greater excess of rainfall than any other part of the country. Over these islands as a whole there were only five or six days without more or less rain, and in some localities only two or three. In the metropolitan area there were no more than five days without a measurable quantity, and the total fall, 5·2 in., amounted to 3·0 in. more than the normal. At Bath the total fall was as much as 6·1 in., and exceeded the average by 3·3 in., while at Aberdeen it was 4·8 in., or 1·6 in. above. At Newquay, where the August average is not known, the aggregate figure equalled 7·4 in., at Brighton it was 6·4 in., an excess of 4 in., at Jersey 7·7 in., 5·2 in. in excess, at Buxton 8·1 in., 3·5 in. in excess, and at Harrogate 6·2 in., against an average of 2·8 in. In some parts of East Anglia, especially round Norwich, the excess was far greater; at Yarmouth the total fall was 8·2 in., being 5·8 in. more than the normal, and nearly as much as is usually yielded by the four months May to August. The rain in the east of England was all the more remarkable owing to the fact that the counties of Norfolk, Suffolk, and Essex are, on the average, the driest in the kingdom. Along the northern seaboard of France the weather was only a little less rainy than in the south of England, and Belgium was almost as great a sufferer. At Brussels rain fell on 20 days and gave a total of 5·2 in.; and at Paris, where there were 18 days with rain, the total was 3·2 in. The excessive rains, except in East Anglia, have been equalled once or twice in the preceding 40 years, but the temperature was the lowest on record over the greater portion, if not of the entire country. In the metropolitan area the very moderate reading of 70° in the shade was only reached on one day, the 4th, and on most of the others the maximum warmth was about 65° or less, sometimes only 60° or 59°. The average afternoon was nearly 6° cooler than during an ordinary August, while it was about 12° cooler than during the corresponding month of last year. The temperature of the night showed less divergence from the normal, being about 3½° in London. In Scotland, where there was but a feeble attempt at summer even during the few hot days experienced in England in July, there were few days with an afternoon warmth higher than 60°. At Aberdeen the highest maximum was 63°, and the thermometer only rose above the 60° mark on three other occasions. At Kew the mean maximum temperature was 64°, and the same figure was experienced at Bath, and the mean minima for the two places were 50½°

and 49½° respectively. In the south-west of England the days were even cooler. At Newquay there was no higher reading than 63°, and the nights, although less cold than in other parts of the kingdom, were much colder than during an average August. At Newquay the mean minimum was about a degree higher than at Kew. On the Continent a large area was relatively cooler than England, especially the north of France. At Paris there was not a single temperature as high as 80°, and the thermometer only ascended above 70° on six afternoons. The mean maximum was 4° higher than at Kew, and the mean minimum temperature 1° higher. Similar conditions occurred at Brussels, the mean maximum temperature being 66° and the mean minimum 51°, while at Berlin the mean maximum was the same as at Paris and the mean minimum 54°. It would probably be impossible to find any preceding August when the thermometer at Paris failed to touch the 80° mark at least once during the month. The cyclonic disturbances from the Atlantic, which were the direct cause of the unsettled weather, followed each other so quickly that the intervals between their going and coming were too short to allow much chance of sunshine, and the records over all parts of the kingdom were consequently deplorably low. Over a large area in the west, midlands, and north the total duration of sunshine for the month was between 70 and 80 hours, or not much more than two hours daily, and of this a considerable part occurred between 6 and 8 A.M. when the sun's heat is the least effective. In no district on the mainland was the total much above 100 hours, and the London area received about the same amount as the south coast. At Kew the figure was 108 hours and at Brighton 109 hours. The respective averages for the two places are 188 and 218 hours. At Bath the total was only 94 hours, at Newquay 73, and at Aberdeen 72 hours. Over the kingdom generally the sun shone only about half as many hours as during an average August. At Jersey, where the average is 243 hours, the total was no more than 137 hours, and at Margate, where there should have been 197 hours, there were only 89. The cloudy condition extended far to the southward and eastward of these islands. At Paris the sun could only shine during 119 hours, and throughout the northern half of France and in Belgium and Holland a cloudless day was very seldom experienced. The summer as a whole has been remarkable for the number of cyclonic disturbances, nearly all of which have arrived from the westward or south-westward; and during the three months, June, July, and August, the only period at all settled was about a week in the middle of July.

## A NATURAL CORRECTION OF MYOPIA.

THE effect of the pressure of the extrinsic ocular muscles as a factor in the development of myopia has long been a subject of discussion amongst ophthalmologists. The early view that near work was deleterious on account of accommodation is now regarded as erroneous since it has been shown that the accommodative act does not affect the intraocular pressure. There is no doubt, however, that the extrinsic muscles cause a rise of intraocular pressure during their activity, and the deleterious effect of near work is now attributed to the act of convergence on this basis. On the other hand, the effect of increased pressure in the young eye is to produce the condition known as buphthalmia, which differs widely from ordinary myopia. If, however, we presuppose that the eye which has a hereditary tendency to myopia, whilst otherwise normal, has an inherent weakness of the walls at the posterior pole, a not incredible conjecture, we have all the factors for the development of the anatomical conditions which are found in myopic eyes. Stilling's theory lays great stress on the pressure effects of the superior oblique. On another page (p. 787) we publish an ingenious application of the old theory of muscle pressure which we believe to be new. Dr. I. B. Muirhead supposes that pressure can be exerted by the combined action of the recti, and the suggestion is quite in accord with what we know of the synergic activity of opponent muscles. He contends that by this action the globe is deformed so that the antero-posterior diameter is diminished, the myopia being thereby more or less completely neutralised. The theory is well worthy of consideration, though we cannot accept it without further evidence. It appears to us that there are several difficulties to be explained away. The eyeball is nearly spherical, and the intraocular pressure is evenly distributed throughout its contents; hence any deformation which occurs must necessarily be very slight in the absence of definite weakness of one part of the walls. In myopia such weakness is doubtless present at the posterior pole, and if the posterior pole is sufficiently supported by the orbital contents slight deformation may occur. Whether in such low degrees of myopia as two or three dioptres the plasticity of the posterior pole is adequate to produce the necessary deformation, it being admitted for the sake of argument that the external support suffices, is a question which we cannot answer on the available data. There are other points in Dr. Muirhead's letter which will arouse criticism, but they all stimulate thought which will serve to elucidate a difficult problem.

## QUOTATIONS FROM "THE LANCET."

AGAIN we must protest against the objectionable and unfair practice adopted by some advertising firms of using quotations from THE LANCET without preserving the sense of the context. In our critical notices of foods, drugs, and medical appliances which are published from time to time for the guidance of our readers, we make it a rule of dealing with these things in an impartial manner, discussing not only their merits (if any) but their demerits (if any) also. Often, however, the quotations imply that we have written nothing but words of praise, whereas a reference to the context will reveal that in a great number of instances this is not the case. An instance of this appears in advertisements of "Vitæ Ore" which are circulated from time to time. The statement used here was: "THE LANCET says, 'the clinical results were satisfactory.'" It is perfectly true that THE LANCET did use these words, but it said a great deal more, as will be seen from the original notice (THE LANCET, March 25th, 1899, p. 844), which we reproduce:—

"This preparation is regarded as 'a valuable and important discovery.' The discovery amounts to a recognition of the fact that ore containing pyrites or native sulphide of iron gradually oxidises in moist air into proto- and persulphate of iron. To the presence of these salts the medicinal value of the powder is attributed. Cold water readily extracts both the per- and proto-sulphate of iron. According to our analysis the ore yields 13·20 per cent. of ferric sulphate and 3·9 per cent. of ferrous sulphate. Iron in these forms is not usually prescribed, being regarded as unsuitable and leading frequently to digestive disturbance and decidedly constipating effects. The ore further contains unaltered sulphide of iron and free sulphur and a large residue of silicious matters, and presents in fact all the appearances of the crushed ore obtained from gold-bearing quartz. The clinical results obtained were satisfactory, but the preparation showed no superiority over 'Blaud's pills' or other remedies used in the treatment of anæmia."

In the advertisements referred to there is not even the indication of a context, which in this case, as in others, contains an important qualifying clause. We are informed that it is doubtful if we have any legal remedy for this sort of abuse of

our editorial remarks, and this would appear to be so, for in THE LANCET of Jan. 13th, 1906, on p. 133, we published an exactly similar explanation and protest, but the offence still continues.

## FURTHER STUDIES UPON THE ETIOLOGY OF BERI-BERI.

IT has already been clearly demonstrated that beri-beri in the Far East is commonly caused by the use of over-milled or polished rice as a staple article of diet, and that the disease can be prevented by the substitution of under-milled or cured rice in place of the highly milled or polished variety. Although the problem of the origin and prevention of beri-beri may be thus regarded as satisfactorily solved for all practical purposes, endeavours continue to be made by experts to discover what is the actual substance present in the rice-polishings the removal of which from the grain by over-milling allows the disease to develop in those who consume the rice. Additions of various sorts, animal and vegetable, to a rice dietary produce the same effects as regards the prevention of beri-beri as does the administration of daily doses of the rice-polishings themselves. For instance, in the late war in Manchuria the Japanese soldiers had a daily ration consisting of 30 oz. of polished rice and 5 oz. of meat, while the Japanese sailors, landed on shore and fighting alongside their soldier comrades, had a ration of 20 oz. of rice, 10 oz. of barley, and 1 lb. of meat. Although the environment was the same in both cases the soldiers, on the one hand, suffered greatly from beri-beri, while the sailors, on the other, escaped altogether. Another instance may be given. When the dietary of the Philippine Scouts (native troops) was altered by reducing the amount of white rice in the ration and adding in its place a quantity of pulse, beri-beri dropped from an average of 600 cases a year to *nil*. It is believed that the allied disease in fowls, polyneuritis gallinarum, is also due to the absence of some essential nutritive principle, and it has been inferred that experiments on fowls would assist in throwing some light upon the subject, which, it may be mentioned, has received a good deal of attention lately from the American medical officers stationed in the Philippines. In two communications which were published last year in the *Philippine Journal of Science*, Major Weston P. Chamberlain and Captain Edward B. Vedder, of the Medical Corps of the United States Army and members of the Army Board for the Study of Tropical Diseases as they appear in the Philippine Islands, gave some details of investigations which they had carried out for the purpose of discovering, if possible, the neuritis-preventing principle which, it was assumed, must be present in an extract of rice-polishings. By a series of experiments upon fowls they were able to exclude the following substances—namely, phosphorus, the inorganic salts, and the sucrose of the extract—from having any power to prevent the development of neuritis. Their inquiries led them to believe that the extract of rice-polishings was of so complex a nature as to render a direct search by means of chemical analysis impracticable. Continuing their researches, however, they proceeded to study the nitrogenous constituents of the extract, and in this work they associated with themselves an expert chemist, Mr. Robert W. Williams, of the Laboratory of Organic Chemistry, Bureau of Science, Manila. The three investigators have now published the results which they have so far obtained in the *Philippine Journal of Science* (Vol. VII., No. 1, Section B, 1912), in an article entitled "A Third Contribution to the Etiology of Beri-beri." They state that their experiments have confirmed the view that polyneuritis gallinarum and beri-beri are caused by the deficiency of some as yet undetermined substance in the dietary, and that this substance is not phosphorus, as is maintained by some high authorities. They regard also as untenable the theory put forward by Kohlbrugge that beri-beri is caused by an acid-intoxication due to a fermentation of the rice by various saprophytic bacteria contained in the grain itself. To the list of substances which these investigators have already shown in their previous papers to have no power to protect fowls against the development of polyneuritis they add the nitrogenous compounds, such as arginin, histidin, asparagin, and various amino-acids; lipoids of the lecithin group and cholin; also extract of onions. As regards the last named, it may be explained that shortly after an increased amount of onions had been added to the dietary of the prisoners in a jail at Manila there occurred a reduction in the number of beri-beri attacks in that institution, and it was therefore surmised that an extract of the onions might contain the sought-for protective substance. Their inquiries further showed that the neuritis-preventing principle in extract of rice-polishings is insoluble in ether; it is absorbed by animal charcoal, but the filtrate through the charcoal when given to fowls will not prevent in them the onset of neuritis. After absorption the active principle cannot be removed from the charcoal by maceration in water, absolute alcohol, or ether. The absence of œdema in fowls attacked by neuritis led to the suggestion that this might be due to their salt-free diet; accordingly, large quantities of chloride of sodium were administered for some weeks without any œdema appearing in any of the fowls. The investigations also proved that a daily dose of 5 c.c. of the extract, equivalent to 5 grm. of rice-polishings, sufficed to protect from neuritis the fowls fed on the over-milled or polished rice, but 2½ c.c., equal to 2·5 grm., of the polishings failed to afford the same protection. Although, as has been said, it is now possible to prevent beri-beri by attention to the dietary, the discovery of the actual neuritis-preventing principle would be of the highest possible scientific interest. It is, therefore, to be hoped that Major Chamberlain and his colleagues in the Philippine Islands, as well as other investigators elsewhere who have been applying themselves to the task, will continue their researches until the much-sought-for substance which prevents beri-beri and polyneuritis gallinarum has been positively identified.

## THE BIOLOGICAL SIGNIFICANCE OF THE EOSINOPHILE GRANULES.

SINCE the original observations of Ehrlich upon the staining reactions of the granules in the protoplasm of the leucocytes, the origin, nature, and functions of these granules have been the subject of much controversy and experiment. The suggestion of Ehrlich that the granules represent a specific secretion of the protoplasm which can exert its influence either within the cell or in its neighbourhood after extrusion is that which has been most widely accepted. On the other hand, Weidenreich has suggested that the granules are phagocytic inclusions, due to the ingestion of erythrocytes by non-granular leucocytes. The significance of the eosinophile granules has been made the subject of an interesting research by Dr. Eugen Petry, of Graz, who has published his results in the *Münchener Medizinische Wochenschrift* of August 27th. He has succeeded in isolating these granules and obtaining them in a pure state in sufficient quantity for experimental purposes, by means of the action of neutral trypsin solutions upon leucocytes and cells from bone marrow. Chemical investigations of the granules showed them to consist of a protein substance of peculiar constitution free from phosphorus but rich in iron. Its physical characters and its resistance to the action of ferments and solvents indicate that it is allied to elastin. These

characters and the absence of a hæmatin group render it improbable that it is derived from hæmoglobin, and Dr. Petry considers that it is a protein evolved in the cell protoplasm itself. He has carried out observations upon the reactions of these granules with a view to discovering their functions. He has studied their effect upon bacteria and their toxins, and has not found any evidence that they exert any influence in this respect. In order to eliminate the possibility that the heating and neutralisation carried out to destroy the trypsin affected the granules injuriously he has obtained the granules by autolysis of the cells and tested them, with similar results. In order to determine whether the granules constitute an internal secretion he injected considerable quantities into an animal without observing any immediate or remote effects. It has been shown by Marwedel and confirmed by Dr. Petry that the eosinophile substance can be broken up in the bone marrow into ionised iron, and Dr. Petry suggests that the leucocytes form the eosinophile substance from iron brought to them, and store up this element in high concentration and in a form which is admirably adapted for storage on account of its mechanical and chemical resistance, while the cells of the bone marrow possess the power of setting free the iron from this complex molecular combination in an ionised condition. He has also shown that the eosinophile granules bear some relation to the formation of indol-blue. If these granules are treated with Spitzer's reagent, they become an intense violet red, but they lose this property if they are first heated. The fate of these granules in the body was also the subject of experiment. Dr. Petry finds that in auto-digestion of leucocytes the granules are slowly dissolved without the formation of iron pigment. On being injected under the skin of animals, the granules are taken up by fibroblasts and dissolved, being later converted into granular iron pigment. In the bone marrow the whole granule appears to be converted into a mass of iron pigment.

## EXTREME ALCOHOLISM IN ADULTS.

OF the many valuable researches that have been undertaken in the Galton Laboratory for National Eugenics, perhaps none are more interesting and suggestive than those dealing with the effects of alcoholism, viewed either in regard to the individuals afflicted or to their offspring. Three memoirs have already appeared, two by Elderton and Pearson dealing with the influence of parental alcoholism on the physique and intelligence of their offspring, and one by Barrington, Pearson, and Elderton on the effects of extreme alcoholism in adults. Dr. David Heron has now issued a second study on Extreme Alcoholism,[1] with special reference to data collected from the Home Office inebriate reformatories in the report for 1909 of the inspector under the Inebriates Act. In this report Dr. R. W. Branthwaite gave a detailed account of 166 male and 865 female inebriates admitted to reformatories in the years 1907–1909. Dr. Heron deals chiefly with the female inebriates, the numbers in the case of men being insufficient to give results on which much stress could be laid. He draws four main conclusions from the conditions recorded: 1. The dominant fact with regard to the inmates of these reformatories is the very high proportion of mental defect; nearly two-thirds (64 per cent.) of the women were mentally defective, a judgment as to their condition being arrived at when they are in the reformatory out of the reach of alcohol. Many of them begin to drink when they are very young, as soon as they get access to stimulants, and the amount of mental defect is but little greater in those who have been drinkers for years than in those who have recently taken to the habit. The degree of alcoholism is closely related with their mental but not at all with their bodily condition. It appears, therefore, that the mental defect is not a gradual growth; it is born, not bred. "Inebriety is more an incident in the life of the inebriate than the cause of his mental defect." 2. From the after-histories of inebriates it could only be said of a very small proportion of them that they were doing well. 3. The deterrent influence of reformatories appears to be *nil*. 4. These inebriates had larger families than the average of sound stocks, and in a large proportion of cases there can be no doubt that the mental defect would be transmitted to the children. No fewer than 50 of these inebriates had at least ten children each. The average fertility in "normal" stocks (childless marriages excluded), according to Pearson, ranges from 4·7 children in family in the English intellectual class to 5·9 in the Edinburgh artisan class; while in "pathological" stocks it varies between 5·7 children in the tuberculous group and 7·0 in the London mentally defective. Thus the lowest average in the diseased type of family is higher than any average (but one) in the normal stocks. The average completed family among the inebriates was 7·8. Of the 865 women, 43 were epileptic giving a ratio of .5 per cent., compared with 0·07 per cent., the average of the general population. As regards mental condition, only 36 per cent. of the females are stated to have been of average capacity: 54 per cent. were "mentally defective," a further 8 per cent. "very defective," and 2 per cent. insane, 64 per cent. in all being "mentally incapable of competing on equal terms with their fellows." The recently introduced Inebriates Bill, in Dr. Heron's opinion, will only touch the fringe of this difficult question; it continues to deal with the feeble-minded inebriate as an inebriate, not as a feeble-minded person; two-thirds of them are mentally defective, and it is this condition that chiefly requires to be dealt with, not the inebriety, which is but a sign of it. The Mental Deficiency Bill, introduced by the Home Secretary, marks an important advance, it is true, but it includes provisions so wide and so vague that needless hostility is sure to be aroused. It must be acknowledged that the question is a very difficult one to deal with; what is required is a broad foundation of facts diligently collected and skilfully analysed, as in the memoir of Dr. Heron and the previous studies of Professor Pearson and others. Hasty legislation is to be deprecated, but there can be little doubt that when the real facts are known and appreciated there will be a demand that these unfortunate persons should be still further and more effectively controlled, for their own benefit as well as for the good of the community.

[1] Eugenics Laboratory Memoirs. No. XVII. Dulau and Co. 1912. Price 6s. net.

## DANGERS OF ALUMINIUM ACETATE.

As aluminium acetate is frequently used as an antiseptic application, it is well that it should be known that its use sometimes is followed by serious destructive effects. Dr. Esau, surgeon to the Oschersleben Hospital, saw some years ago (*La Semaine Médicale*) a boy who had had an abscess of the finger for which he was treated by a dressing of absorbent wool soaked in a very weak solution of aluminium acetate covering the whole hand, outside which was a layer of waterproof gauze, the whole being fixed by a moderately tight bandage. Next day it was found that the pulps of all the fingers were sloughing, and the destruction was so serious that autoplastic methods had to be employed. Although this case might be looked upon as exceptional and due to a peculiar susceptibility, or to some neurosis, it is remarkable that the boy had felt no tingling or swelling in the fingers, and that he was apparently a perfectly healthy lad. Since that time Dr. Esau has seen three other cases. One

was that of a girl with eczema of the hand, to which, after resisting treatment for three months, an aluminium acetate dressing was applied, which produced a large sloughing ulcer, with inflammation of the arm and axillary glands. Dr. Esau concludes that while aluminium acetate is far from possessing high antiseptic power, its possible dangers are so appreciable that it ought to be discarded and replaced by harmless applications of boric acid.

## THE INTERNATIONAL COMMITTEE FOR POST-GRADUATE MEDICAL EDUCATION.

A MEETING for the consideration of post-graduate medical education will be held during the Seventeenth International Medical Congress in London in August, 1913, by the International Committee for Post-Graduate Medical Education. The programme of the meeting has been published already, and includes in its first part reports designed as contributions to collective researches into the present regular course of medical university instruction and post-graduate education. These researches were instigated by the international committee some time since. The members of the international committee appointed by the different Governments will select speakers, who during this part of the meeting will report on the following topics: (1) the present regular course of university education up to graduation (including examinations) and the legal provisions governing the whole course of study; (2) the relation in which university education stands to post-graduate education and the present condition of medical post-graduate education. The second part of the meeting will deal with important subjects of instruction, especially the following topics: 1. The necessity of reform in methods of instruction in view of the importance of technical skill to the medical profession. 2. The importance of social medicine and its collateral lines as a subject for instruction in the compass of both regular and post-graduate medical education. For the latter topics, which have an equal interest for all countries, the Board of the International Committee will select the speakers. The office of the International Committee is situated at Luisenplatz 2-4, Berlin NW.6.

## SPONTANEOUS ARTERIAL HÆMORRHAGE COMPLICATING SUPPURATIVE APPENDICITIS.

IN the *Revue de Chirurgie* for August two very interesting examples of a rare but calamitous complication of suppuration around the appendix, spontaneous ulceration of branches of the external iliac artery, are recorded by Professor M. Patel, of Lyons, and his assistant, Dr. J. Murard. They allude to a thesis recently published at Lyons by M. Scudary, in which the arterial ulcerations which may occur in the course of a purulent appendicitis are divided into three groups. There are those cases in which the deep epigastric artery is involved; in these the hæmorrhage which ensues is moderate and readily controlled. In a second group it is the external iliac artery that suffers, while the third group is that to which the two cases recorded belong, examples of hæmorrhage from branches of the external iliac artery. The first of these two cases occurred in a boy nine years of age, who had been doing reasonably well for four days following an operation evacuating a retro-cæcal abscess, but who on the fifth day was quite suddenly seized with hæmorrhage which escaped through the dressing into the bed. While the dressings were being removed the bleeding ceased, but it returned again, more violently than ever, when the drainage-tubes were removed, and the child died half an hour later. A subsequent dissection showed a large perforation in the wall of the anastomosis between the deep circumflex iliac and the ilio-lumbar arteries. The other patient was a man, aged 26 years, whose fatal hæmorrhage took place in two stages, ten days after an operation had opened and drained a large abscess lying behind the cæcum. Though no post-mortem examination was permitted, the writers think that the position of the abscess and of the drain which was inserted were such that the vessel injured must have been the same one as in the other case. So far as the symptoms are concerned, these cases do not differ from those in which the main trunk of the external iliac artery is opened. In both the hæmorrhage is quite sudden and there are no premonitory signs whatever. It is violent and quickly fatal. Usually it happens within the week following the operation, though it has been delayed until the twenty-fifth day. Sometimes some effort, such as a fit of coughing, appears to have provoked its occurrence, but this is of subordinate importance. The two factors actually responsible for destruction of the arterial wall are pressure by a drainage-tube and the necrosing action of bacterial toxins. That the toxic factor is of prime importance is proved by the fact that hæmorrhage has happened in cases in which no drainage-tube was used. Unfortunately, the startling suddenness of the calamity is such that the patient is dead before effective help can be given; but one thing, at any rate, may be worth remembering, that drainage-tubes should not be withdrawn until the finger, passed into the wound, can so compress the artery as to control the hæmorrhage which is apt to follow removal of the tubes. In order to prevent the catastrophe early incision of appendicular abscesses is necessary, and drainage-tubes, if used at all, should not be passed in to a great depth beneath the surface.

## THE CARE AND AFTER-CARE OF CONSUMPTIVES.

WE publish in this week's issue of THE LANCET two papers dealing with a subject of perennial interest and one which is the subject of almost ceaseless discussion and controversy—viz., the care and management of patients suffering from pulmonary tuberculosis. The first of these is the annual oration delivered by Dr. T. Glover Lyon before the Hunterian Society. With some of the views expressed by the lecturer we are in general agreement, but we cannot in any way associate ourselves with his scathing denunciation of specific remedies in this disease or with his statement that the use of tuberculin in the treatment of consumption has no justification as a therapeutic agent. Dr. Glover Lyon appears to regard sanatoriums with somewhat mixed feelings. He looks upon sanatorium treatment as suitable for patients of humble means, but states that it is not suitable for patients in positions that require the display of initiation and entail responsibility. He also subjects the sanatorium system and its routine to severe criticism, and complains that patients coming from a sanatorium often develop into aggressive valetudinarians, unable to resume their former positions in life. The antidote to the disadvantages of the sanatorium system is afforded in the second paper to which we refer—viz., the article by Dr. H. W. McConnel upon After-Care under the National Insurance Act, read before the Manchester Tuberculosis Congress. It cannot be too strongly urged that sanatorium treatment is only one of the means of treating the disease, that in the majority of cases it cannot be carried out long enough to effect complete arrest, and that the educational aspect of its influence is a very important matter. Dr. McConnel clearly points out the importance of organised after-care in preventing the patient from relapsing and sinking back into the conditions which fostered his disease and its value in assisting him to regain his working capacity. He rightly urges that after-care

should really commence when the patient is first received at the sanatorium—that is, that his future should be considered from the outset of his treatment and all efforts should be concentrated upon his return to wage-earning capacity, so that before he leaves the sanatorium he should be capable of doing a full day's work. Dr. McConnel also outlines schemes for the organisation of after-care, and his suggestions are practical and useful.

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Dr. Egbert Sumner Verdon has received the authority of His Majesty the King to accept and to wear the Insignia of Commander of the Hafidian Order conferred upon him by the Sultan Mulai-Abd-el-Hafid of Morocco. Dr. Verdon was physician to the Court of the Sultan. The undermentioned gentlemen have received the authority of His Majesty the King to accept and to wear the decorations which were conferred on them by His Majesty the Emperor of China by an Imperial Edict dated Feb. 6th last—viz.: Order of the Double Dragon: the Insignia of the First Class of the Third Grade to Mr. Dugald Christie, C.M.G., F.R.C.P. & S. Edin., medical officer for the prevention of plague, Mukden Station; Insignia of the Second Class of the Third Grade to Mr. Alexander Russell Young, L.R.C.P. & S. Edin., L.F.P.S. Glasg., and Mr. David Dickson Muir, L.R.C.P. & S. Edin., L.F.P.S. Glasg., medical officers for the prevention of plague, Mukden Station; and the Insignia of the Third Class of the Third Grade to Robert John Gordon, M.A., M.B., B.Ch., of the Irish Presbyterian Mission.

## AFTER-CARE UNDER THE NATIONAL INSURANCE ACT.[1]

BY H. W. MCCONNEL, M.A., M.B. CANTAB., M.R.C.S. ENG.

IN the last two years great advance has been made in the matter of after-care throughout the country. Two years ago less than half of the sanatoriums in England considered after-care necessary, or at all events they did nothing in the matter; but now the great majority approve of the principle at least, and more than three-quarters have actual after-care of one sort or another in operation. Still there are some who hold out.

This being so, it may be well to set forth shortly the object of after-care. It is to help the patient to help himself after he leaves the sanatorium, to see that he continues to carry out the lessons he has learnt, not only as regards himself, but also as regards his family and his surroundings; and to help him to meet the troubles of his life which he is sure to encounter when he starts earning his livelihood again. It is useless, and a waste of public money, to go to the great expense of sanatorium treatment to restore a patient to good health again and to teach him how to keep well, and then to do nothing more than stand aside and allow him, through want of knowledge or stupidity, to slip back once more among the unemployed or unemployable, a burden to himself and his friends, and to the local rates.

The patient's future should be considered from the time he enters the sanatorium; his after-care should be anticipated and should be borne in mind all through his stay there. At the sanatorium—I am taking an ideal case where after-care is adequately and satisfactorily carried out, an ideal which is never quite reached in any one institution, some failing in one point and some in another—the patient is taught that arrest of the disease and a return to wage-earning capacity form the object of his stay, and he is shown that work is an essential part of the treatment; he is filled with hope as to his future, and he is not allowed in any way to develop the habits and manners of the loafer. As soon as he is capable he is put to little jobs in and about the place, at first very light, but gradually increasing in severity with his increasing capacity; and so he is gradually brought before he leaves to do a full day's work and is turned out hard and capable.

The difficulties which meet a patient and in which after-care is so useful fall into two heads: (1) those that are within the patient's own control; and (2) those which are not. Into the first category come disobedience to the rules and the recommendations when at the sanatorium, and also the not following out, when he leaves, the lessons he has learnt there. Into the second category come the troubles and difficulties due to incapacity on the one hand, and to the fear of infection on the other—I mean the fear that he will infect others which is apt to be in the minds of his employers and fellow employees.

All these difficulties can be met in a large measure by after-care. As regards the first, patients are not nearly so likely to be careless of themselves or of others when looked after—they are much more likely to be casual and to let things slide if left alone. And as regards the second, after-care workers can gradually weld the public mind and show that the risk from an ex-patient who has had sanatorium training is almost *nil*, and is as nothing compared with that from a consumptive who has stayed at home and has hushed up his disease in order not to attract the notice of others through fear of losing his work.

After the patient has been at the sanatorium for a time, and the resident medical officer has been able to sort his case and his capacity, his employment and its surroundings are inquired into; and in view of his past and its possibilities, and with due consideration to his present condition, suggestions and recommendations are made as to his future. If he is a good case and capable of work, efforts are made to arrange for a definite job for him to take up when he leaves the sanatorium; and finally, just before his departure, further advice is given him as to his future. Thus he leaves in as good health as his case allows, primed with information and full of hope for the future; and thus, passing out from the sanatorium and from those interested in him there, he comes under the influence of the after-care committee proper.

And it is here at this point of his career that there is apt to be a break in the satisfactory continuity of his treatment—i.e., in the transition from the sanatorium back to those who have sent him there—and it is to help this that the after-care committee of the National Association for the Prevention of Consumption made last year a very valuable suggestion. They recommended that a printed form, setting out some details of his case and adding the advice that had been given him at the sanatorium, should be sent to those interested in him before he came there and to whom he returned, in order that they might know what had been recommended. This suggestion has been sent to all artisan sanatoriums and will, I hope, do much to remedy a very obvious difficulty.

The happy result at the sanatorium is aided in two ways. First, by the working patients scheme, under which some of the patients are kept on at the sanatorium for a further period as part of the temporary staff of the institution, doing definite duties, but still under strict treatment. This gives them a further time to get well and hard, and a further opportunity to find a suitable job to go to when they leave. Secondly, by lectures and advice. In this way the patient is taught something about the *rationale* of his treatment and how to keep well afterwards, and what to avoid and what to do.

Sanatoriums at present may be divided into two classes: (1) subscription-supported; and (2) rate-supported. In general terms the features of the *subscription-supported sanatoriums* are enthusiasm and a great deal of voluntary work; in fact, in most cases it is the energy of a few enthusiasts which starts the sanatorium and carries it along. Money is rather short and is made to go as far as possible both in building and in administration; it is these sanatoriums that we have to thank for finding out how best to build, equip, and maintain an institution at the least possible cost.

As regards after-care, this is done mostly by a local committee in the neighbourhood of the sanatorium—first, because the enthusiasts who run it live near; and secondly, because, as the patients' homes are usually at a distance and they are difficult to follow, it is easier, though not so effectual, to after-care them before they leave the sanatorium. This being so it follows that a great deal of stress

[1] Abstract of a paper read before the Manchester Tuberculosis Congress, June, 1912.

is laid upon the sanatorium part of the after-care—that is, on the working patients scheme and the lectures and the educational talks, and the patients have often to be left to self-care after they leave rather than to the labours of a properly organised after-care committee. Patients, of course, are asked to report, and some efforts are made to keep in touch with them later.

In the *rate-supported sanatoriums*, on the other hand, matters move more slowly, and there is often long consideration before action is taken, but when it is money is granted and is certain both for the building and for the maintenance. The medical officer of health is usually in charge of these sanatoriums. He is already a busy man, and local authorities have not grasped how much work a sanatorium demands, or have not appreciated that no man can do more than a certain amount properly. The result is that unless the medical officer of health happens to be extraordinarily keen or blessed with superhuman energy, there is a danger that some of the work is skimped, and amongst other things after-care is easily passed over. In these rate-supported sanatoriums most of the patients are local, so that a local after-care committee often gets better results than can be expected in subscription-supported sanatoriums with patients from a distance. There is, however, usually little money available for this after-care, and so the work is often handicapped.

As examples of subscription-supported sanatoriums I will take Kelling, Blencathra, and Daneswood—they each have peculiarities in their after-care; and then I shall mention a few instances of rate-supported institutions.

*Kelling* is in Norfolk and has 70 beds. It has been open for ten years and has done much pioneer work, both in sanatorium building and in the working patients and after-care schemes. Sixteen men and three women working patients are kept on, doing work of various sorts in and about the place. One fetches milk from a dairy three miles away, one looks after the stable, another runs the acetylene gas plant and the pump for the well water, two or three are carpenters, and several work in the garden. This working patients scheme is found specially applicable to the single men or women who have no home ties.

At Kelling the organised work in the sanatorium is under a special officer called the overseer, subject, of course, to the control of the resident medical officer. All sanatoriums are recommended to have such an officer, as he saves the resident medical officer much non-medical work, and ensures that the work is really properly done and that there is no loafing.

As regards after-care Kelling has been fortunate enough from its commencement to secure the honorary services of a retired medical man to push this side of the treatment. Last year at Kelling 70 men and 36 women cases were considered: four men and five women became working patients, 35 men and 20 women resumed their former occupations or similar ones under bettered conditions, seven took up new work, 13 men and six women were unfit, and six failed to get work. Notes are sent to those interested in the cases after they leave, but it is impossible, as few of the patients live near Kelling (some come even from the Isle of Man), to do more than this. The patients, however, are always welcomed if they can call again, and cards are sent round at Christmas time to all that have been at the sanatorium to ask how they are. The after-care at Maltings Farm and at Maitland Sanatoriums is done much in the same way as at Kelling.

*Blencathra* receives help from the Charity Organisation Society. Blencathra is in Cumberland, and its patients mostly are Cumbrians; the after-care work proper is chiefly seen to by the Carlisle Charity Organisation Society, and usually with great benefit. Many cases struggling on with unsuitable work have been helped to healthier surroundings, and patients showing signs of relapse are noted by the visitors. Ex-patients are urged to come to the sanatorium at regular intervals for examination and advice.

At *Bellefield* the after-care, with its graduated labour at the sanatorium and its most excellently organised ladies' auxiliary committee, is carried on in the same way and on the same lines as at Blencathra, and with most excellent results.

At *Daneswood* the conditions approach to the ideal, and what might be obtained under a rate-supported sanatorium, for there are a sufficiency of money and great enthusiasm. Daneswood is in Bedfordshire, and only takes patients of the Jewish persuasion; it is supported by private subscriptions and by the Jewish Board of Guardians. Most of the patients come from London and return to London, and both before and after their visit to the sanatorium are under the control of the health committees, who refer the cases to the after-care committee if a money grant is recommended. About £400 a year is spent by this after-care committtee, who find new work for their cases or emigrate them; they often start them in small shops or hawking, making use of the Jewish love of barter, and as they find the money are in a position to demand obedience in the home and its surroundings. At the sanatorium the housework and the digging, &c., are done by patients, and after they leave there is always some kind friend to take them in hand. If the conditions that obtain at this Jewish sanatorium were found elsewhere the question of after-care would be easily solved.

I may specially note that the after-care committee at Daneswood carry on their work near the patient's home and away from the sanatorium, and this is rendered possible because most of the patients come from the same neighbourhood. The after-care committee is kept in touch with the findings of the resident medical officer at the sanatoriums by a monthly visit there of their secretary, when every case that is to leave before the next visit is brought up and considered.

Now to take a few instances of after-care at rate-supported sanatoriums.

*Salterly Grange* (*Cheltenham*).—This institution is under the control of the Birmingham Health Department. Advice is given at the sanatorium, and the patients are put on to work as soon as they are fit, either with the gardener, carpenter, or engineer. The after-care work proper is carried on by the medical officer of health and his health visitors. Tuberculin inoculations in full doses are continued and the patient regularly visited, and if relapse occurs the cases are sent back to the sanatorium.

At *Macclesfield* there is a recently started borough sanatorium of 10 beds under the medical officer of health, which, though most excellently carried out, is meant only for advanced cases, so the institution may be looked on as purely educational and preventive. There is no after-care committee, but the health visitors follow up the cases, and the relief associations also give food when wanted. A satisfactory leaflet is given to each patient on leaving.

At the *Aitken Sanatorium* in this county (Lancashire), with 50 beds, the matter of after-care is still under consideration, waiting, I think, like a large number of institutions, till the Insurance Act comes into force, but every case on discharge is notified to the medical officer of health, and is then referred to the health visitors. The services of the local Charity Organisation Society are often called in.

At *Bowden* matters have advanced a little further; selected cases do light work, gardening, poultry farming, &c., and after they leave the sanatorium are visited by lady visitors who report to a committee if assistance is needed.

At *Maiden Law* advice and education to the patient at the sanatoriums and self-care after he leaves are much trusted to, but there is also a ladies visiting committee.

There is one more point of interest discussed by various authorities, and that is whether the health visitors should be paid or not paid. The rate-supported institutions on the whole lean towards the former, while the subscription-supported sanatoriums prefer to rely in most cases on the latter, but I think that both may advantageously be combined. It may be found best to have a paid secretary and a special phthisis nurse, but there will always be room for the unpaid health visitor and Charity Organisation Society worker, who will become more and more skilled as they gain experience, and will always infect the whole scheme by their enthusiasm and individuality.

And now I come to the consideration of after-care under the Act. This is somewhat difficult, as there is not one word in the Act referring to after-care. This is a mistake, for the failure of many cases to keep well and their falling back into ill-health is due to the absence of after-care, and it would have been well to have marked its importance by at all events introducing the name into the Act. But the advisory committee, with Mr. Waldorf Astor as chairman, have valiantly pressed forward its claims, and if the Insurance Commissioners and the Local Government Board can be duly impressed with the importance of the recommendations on this point, sanatoriums will at once begin to show results which they have not hitherto achieved. It is an opportunity of the greatest moment, and one which should not be missed.

It would be of much benefit to the community if this representative meeting could, either through the advisory committee or directly, urge the Local Government Board to insist on a suitable and well arranged scheme of after-care as one of the necessary conditions when granting approval to any sanatorium seeking to take patients under the Act, or when giving a grant of money for maintenance or for the establishment of a dispensary unit.

Now to turn to the recommendations of the advisory committee. I think that this committee would have been better advised to have used the term "after-care" in a wider sense than they have. They use the expressions "sanatorium benefit" and "sanatorium treatment" in a wide sense—i.e., to treatment, not only in the sanatorium, but even in the patient's own home; so here it would have been well to have included in the term "after-care" anything and everything that would tend ultimately to the after-caring of the patient. I am sure that the advisory committee will agree to this, and I invite their attention to it in their final report.

Again, in the interim report they state that *discretion* should be used in after-care and publicity avoided because of the exaggerated fear of the infectivity of consumption among employers and fellow employees; this, I think, also is a mistake. The fear of infection is exaggerated, but a policy of *fear of talking* will not help to correct this. I think, on the contrary, that there should be much talk about it and employers shown that a man who has been to a sanatorium and who obeys its rules is not dangerous or infectious.

With these two exceptions, I am fully in accord with the rest of the advisory committee's suggestions on after-care.

Their main scheme of passing the patients on their way to a sanatorium first through a dispensary under a capable tuberculosis officer, and of then referring them back again to the dispensary on their discharge, is a very excellent one, and should meet with warm approval, for it ensures that every case is properly considered, and it allows of the happy coöperation of voluntary care committees and of paid health visitors under the chief tuberculosis dispensary officer. It brings all these agencies into line and prevents overlapping of effort.

So under the Act the machinery for after-care should be as follows:—

1. At the dispensary the chief tuberculosis dispensary officer, who first sees the case and sends him for admission to the sanatorium.
2. At the sanatorium. (*a*) The resident medical officer, who treats the case and gives lectures and teaching and also arranges for the working patients scheme. (*b*) A small honorary after-care committee, containing if possible a retired medical man, with a paid secretary. This committee, called "The Sanatorium After-Care Committee," would meet at intervals, and with the full concurrence and assistance of the resident medical officer would interview each patient and advise as to his future work and mode of life. These recommendations would be written down and sent, when the patient left the sanatorium, to the chief tuberculosis dispensary officer.
3. At the dispensary. The after-care committee proper, which might be called "The Dispensary After-Care Committee," and which would be perhaps a subcommittee of the Insurance Committee, with power to add to their numbers. This committee, which should be small, would act in full conjunction with the chief tuberculosis dispensary officer, whose advice and direction they would follow, and with the assistance or instrumentality of the special phthisis nurse, health visitors, and local Charity Organisation Society, &c., would keep in touch with the patient, visit at his home, see that he carried out the rules and recommendations learnt at the sanatorium, and generally would do what they could to help him. Latitude should be given in the formation of this committee, so as to include those who are specially interested or skilled in this work in each neighbourhood, but it should be a *sine quâ non* that it should act in conjunction with, and under the direction of, the chief tuberculosis dispensary officer, who would be the centre of all this movement. If the sanatorium was situated near the patients' homes it might be desirable for the Sanatorium After-Care Committee and the Dispensary After-Care Committee to be one and the same.

In conclusion, I should like to repeat that the outlook for the after-care side of treatment has never been so bright as it is under this Act, if properly administered. If a small grant of money is allowed for the purpose, and if the voluntary and paid agencies are linked up around the tuberculosis dispensary officer and the dispensary, a great deal of good should be done, and most of the present difficulties in the matter of after-care should be overcome.

But it must be remembered that each case must be treated and attended to on its own merits, and the individuality of each case must be fully considered; so it is desirable, on the one hand, to keep the committees small and to allow as full a play as possible to the enthusiasm of the few who are really interested and who really know; and, on the other hand, each patient must be made to feel that individual effort is necessary on his part, and he must not be allowed for one moment to think that if he does nothing everything will be done for him. For the object of after-care is not to keep a large body of loafers alive, but rather to help those who help themselves, and to meet if possible in some way the handicap of their disease.

## FOREIGN UNIVERSITY INTELLIGENCE.

*Berne:* Dr. L. Schneider has been recognised as *privat-docent* of Medicine; and Dr. J. W. Schürmann and Dr. M. G. Rothemund as *privat-docenten* of Hygiene and Bacteriology.—*Breslau:* Dr. P. Heinrichsdorff has been recognised as *privat-docent* of General and Pathological Anatomy.—*Freiburg:* Dr. Leopold Küpferle has been recognised as *privat-docent* of Medicine.—*Genoa:* Dr. E. Arman, of Pisa, has been recognised as *privat-docent* of Dermatology.—*Kharkoff:* Dr. Menschikoff, of Kazan, has been appointed Extraordinary Professor of Pædiatry.—*Kiel:* Dr. Hans Oloff, naval staff surgeon, *docent* of Ophthalmology in the Naval Medical College, has been granted the title of Professor.—*Limoges:* Dr. Raymond has been promoted to the chair of Histology.—*Moscow:* Dr. R. Venglovski has been appointed Extraordinary Professor of Operative Medicine and Topographical Anatomy.—*Philadelphia (Jefferson Medical College):* Dr. Thomas McCrae, of the Johns Hopkins University, Baltimore, has been appointed Professor of Clinical Medicine, in succession to Dr. Wilson, resigned.—*Rome:* Dr. Fausto Constatini has been recognised as *privat-docent* of Neurology and Psychiatry.—*Sienna:* Dr. Filippo Neri, of Pisa, has been recognised as *privat-docent* of Hygiene and Medical Police.

# HEALTH OF EUROPEANS IN EAST AFRICA.

BY ARTHUR E. HORN, M.D., B.SC. LOND.,
MEDICAL OFFICER, WEST AFRICAN MEDICAL STAFF.

A SHORT time ago I called attention in THE LANCET[1] to the recent vital statistics of non-native officials in West Africa presented to Parliament by the Colonial Office. Similar statistics dealing with the years 1910 and 1911 have now been prepared for European officials serving in the British Dependencies of East Africa, including the East Africa Protectorate, Uganda, Nyasaland (formerly known as British Central Africa), and Somaliland. They are of interest in allowing, to some extent, of comparison of health conditions, not only between the different East African Dependencies themselves, but also between East Africa as a whole and British West Africa—bearing in mind, however, the important fact that as regards the newer East African possessions the statistics apply solely to the last two years, whereas in West Africa they are concerned with the nine years 1903–11 inclusive.

### *The Year 1910.*

The information available for the year 1910 is incomplete in some respects, notably as regards the age-distribution of officers, but this information is being collected as officers come on leave, and in future returns should be more complete.

Particulars of officials who left the service during this year are included in the following return:—

TABLE I.—*Return showing Deaths, Invaliding, &c.*

| 1 | 2 | 3 | | | 4 | | 5 | | | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Deaths. | | | Pensioned. | | Invaliding. | | | | | | |
| Protectorate. | Average number in service. | *a* Total. | *b* Rate per 1000. | *c* Average length of service. | *d* Ill-health. | *e* Total. | *f* Total. | *g* Rate per 1000. | *h* Average length of service. | Total number who left the service. | Average length of service of officers who left. | Resigned or retired on termination of agreement. | Number in service on Dec. 31st. |
| | | | | Y. M. | | | | | Y. M. | | Y. M. | | |
| East Africa Protectorate ... | 553 | 8 | 14·6 | 6 7 | 2 | 5 | 8 | 14·5 | 5 4 | 96 | 3 4 | 5 | 556 |
| Uganda ... | 211 | 3 | 14·2 | 1 0 | — | — | 9 | 42·6 | 3 0 | 59 | 3 1 | 2 | 5 203 |
| Nyasaland | 133 | 3 | 22·6 | 4 10 | — | 2 | — | — | — | 19 | 3 5 | 4 | 6 131 |
| Somaliland | 40 | — | — | — | — | 3 | 6 | 150 | 3 8 | 37 | 3 3 | 3 | 8 25 |
| East Africa | 937 | 14 | 14·9 | 5 0 | 2 | 10 | 23 | 24·5 | 4 0 | 192 | 3 3 | 3 | 6 915 |

It will be noticed that the total of Column 6 of this table is less than the actual total of the figures given for the separate Protectorates. This is accounted for by the transfer of officers from one Protectorate to another.

*Death-rate, 1910.*—The total death-rate for the year was 14·9 per 1000. No deaths occurred from causes other than disease. The causes of death were as follows:—*East Africa Protectorate.*—Malaria and hyperpyrexia, 1; malaria, 1; cancer, 1; chronic bronchitis and heart failure, 1; abscess of liver, 1; bursting of blood-vessel, 1; leprosy, 1; rheumatic fever, 1. *Uganda.*—Blackwater fever, 2; unknown, 1. *Nyasaland.*—Blackwater fever, 1; gastro-enteritis, 1; unknown, 1.

*Invaliding-rate, 1910.*—The total invaliding rate for the year was 24·5 per 1000. The causes of invaliding were as follows:—*East Africa Protectorate.*—Syphilis, 1; progressive visceral changes, 1; sciatica, 1; malaria, 1; insanity, 1; heart troubles, 2; abscess of liver, 1. *Uganda.*—Dislocated shoulder, 1; gonorrhœa, 1; digestive troubles, 1; dyspepsia and heart trouble, 1; boils, 1; blackwater fever, 1; nervous breakdowns, 3. *Somaliland.*—

[1] See Health of Europeans in West Africa, THE LANCET, May 18th, 1912, p. 1356.

Hæmorrhoids, 1; kidney trouble (stone), 1; malarial fever, 2; injury to eye, 1; malignant growth of testicle (has died since leaving the service), 1.

In addition to the above there were 2 dismissals for intemperance. If these be regarded as due to climatic influence, and, therefore, classed as "invalidings," the total rate for the year is raised to 26·7 per 1000, which includes not only all officers invalided home but also officers who did not return to East Africa for reasons of health. Except in a few cases, officers pensioned had at least ten years' service in East Africa. In reckoning the length of service of officials the time spent on voyages to and from East Africa and leave in Europe has been included. The actual period spent in East Africa may be put roughly at five-sixths of the total service.

Of the total number who left the service, 7·3 per cent. were due to deaths and 11·9 per cent. to invalidings. The remainder were due to retirement on pension on account of age, completion of agreement, reversion to British regiments of King's African Rifles officers at conclusion of secondment, dismissals, &c.

*The Year 1911.*

As for 1910, the information with regard to the age distribution of officers is incomplete for 1911, although more complete than for the preceding year.

TABLE II.—*Return showing Deaths and Invalidings in 1911.*

| Protectorate. | Deaths. Central age. 25 | 30 | 35 | 40 | 45 | 50 | In 1st year of service. | In 2nd year of service. | In 3rd year of service and over. | Totals. | Invalidings. Central age. 25 | 30 | 35 | 40 | 45 | 50 | 60 | In 1st year of service. | In 2nd year of service. | In 3rd year of service and over. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East Africa Protectorate | — | 3 | — | 1 | 2 | 2† | 2 | 2 | 4 | 8 | 1 | — | — | — | — | 1 | 1 | — | 3 | 4 |
| Uganda ... ... | — | — | — | 2 | 1 | — | — | 1 | 2 | 3 | — | — | — | 3 | — | — | — | — | 3 | 3 |
| Nyasaland ... | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 1 | — | — | 3 | 3 |
| Somaliland ... | — | — | — | 1 | — | — | 1 | — | — | 1 | — | 2 | — | — | — | — | 2 | — | — | 2 |
| Totals... ... | — | 3 | — | 4 | 3 | 2 | 3 | 3 | 6 | 12 | 1 | 2 | — | 4 | 1 | 1 | 3 | — | 9 | 12 |

† Includes one aged 64.

The ages of two invalidings from East Africa and of one from Nyasaland were unknown.

It will be seen that the death-rate, and to a less extent the invaliding rate, is higher at and above the "central age" of 40, and with a service of three years and over.

TABLE III.—*Return giving Particulars of Officials who Left the Service during 1911.*

| 1 Protectorate. | 2 Average number in service. | 3 Deaths. a Total. | b Rate per 1000. | c Average length of service. | 4 Pensioned. d Ill-health. | e Total. | 5 Invalidings. f Total. | g Rate per 1000. | h Average length of service. | 6 Total number who left the service. | 7 Average age on termination. | 8 Average length of service on termination. | 9 Number in service on Dec. 31st. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Y. M. | | | | | Y. M. | | | Y. M. | |
| East Africa Protectorate ... | 588 | 8 | 13·6 | 2 10 | 2 | 3 | 4 | 6·8 | 7 11 | 92 | 36 | 2 11 | 619 |
| Uganda ... | 224 | 3 | 13·4 | 5 5 | 1 | 1 | 3 | 13·4 | 7 3 | 25 | 34 | 4 0 | 245 |
| Nyasaland | 132 | — | — | — | 3 | 5 | 3 | 22·7 | 9 10 | 20 | 36 | 6 11 | 133 |
| Somaliland | 23 | 1 | 43·5 | 0 3 | — | — | 2 | 87·0 | 2 3 | 5 | 33 | 2 10 | 22 |
| East Africa | 967 | 12 | 12·4 | 3 3 | 6 | 9 | 12 | 12·4 | 7 3 | 126 | 36 | 3 8 | 1019 |

The total of Column 6 of this table is less than the actual total of the figures given for the separate Protectorates. This is accounted for by the transfer of officers from one Protectorate to another.

*Death-rates, 1911.*—The total death-rate for the year was 12·4 per 1000, a decrease of 2·5 per 1000 on that for 1910, but if the two deaths due to accident be excluded (there were no accidental deaths in 1910) the death-rate for the year was 10·3 per 1000, a decrease of 4·6 per 1000 on that of 1910. The causes of death were as follows:—*East Africa Protectorate.*—Killed by hippopotamus, 1; malaria, pneumonia, and heart trouble, 1; following amputation of leg, 1; blackwater fever, 1; typhoid fever, 1; suicide (suffered from neurasthenia), 1; hepatic abscess and peritonitis, 1; unknown (died at sea), 1. *Uganda.*—Accidentally drowned, 1; septicæmia, 1; malarial fever, 1. *Somaliland.*—Suicide during temporary insanity, 1.

*Invaliding-rate, 1911.*—The total invaliding-rate for the year was 12·4 per 1000, a decrease of 12 per 1000 on that of 1910. The causes of invaliding were as follows:—*East Africa Protectorate.*—Eye troubles (choroiditis (1), progressive diminution of vision (1), and acute inflammation (1)), 3; diabetes and hæmatemesis, 1. *Uganda.*—Neurasthenia and stricture of urethra, 1; incipient neurasthenia, 1; colitis, 1. *Nyasaland.*—Transverse myelitis, 1; drug habit and blackwater fever, 1; chronic gastritis, 1. *Somaliland.*—Mucous colitis, 1; loss of left eye from exposure to sun and dust, 1.

In addition to the above, there were two dismissals for intemperance, which, if included as "invalidings," raise the rate to 14·5 per 1000.

Of the total number who left the service, 9·5 per cent. were due to deaths and 9·5 per cent. to invalidings.

TABLE IV.—*Summary of Returns for 1910 and 1911.*

| 1 Year. | 2 Average number in service. | 3 Deaths. a Total. | b Rate per 1000. | c Average length of service. | 4 Pensioned. d Ill-health. | e Total. | 5 Invalidings. f Total. | g Rate per 1000. | h Average length of service. | 6 Total number who left the service. | 7 Average age on termination. | 8 Average length of service on termination. | 9 Number in service on Dec. 31st. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Y. M. | | | | | Y. M. | | | Y. M. | |
| 1910... | 837 | 14 | 14·9 | 5 0 | 2 | 10 | 23 | 24·5 | 4 0 | 192 | 33 | 3 6 | 915 |
| 1911... | 967 | 12 | 12·4 | 3 3 | 6 | 9 | 12 | 12·4 | 7 3 | 126 | 36 | 3 8 | 1019 |

It will thus be seen that the average death-rate for 1910 and 1911 was 13·6 per 1000, while the invaliding rate was 18·4 per 1000.

The above summary shows that, generally speaking, there is some improvement in 1911 over 1910, but of, course, no generalisation can be based on so short a period as two years. Experience has shown that fluctuations occur in the health rates of tropical colonies for different years, "good" and "bad" years being found, and future statistics will show whether the improvement is maintained.

Compared with West Africa, the following figures are of interest:—

| | |
|---|---|
| Average death-rate for 1910 and 1911... | West Africa, 17·1 per 1000<br>East Africa, 13·6 per 1000 |
| Average invaliding rate for 1910 and 1911 ... ... ... ... ... ... | West Africa, 28·8 per 1000<br>East Africa, 18·4 per 1000 |

The difference, as might be expected, is in favour of East Africa in both cases, especially as the "tour of service" in these Protectorates is over twice the length of that which obtains in West Africa—being from two to two and a half years in the former as compared with one year in the latter.

Blackwater fever, which accounted for one death out of the 12 which occurred amongst officials in East Africa in 1911, was at the same time responsible for 8 out of 34 deaths of officials in West Africa.

No similar statistics are available for non-official Europeans resident in the East African Dependencies, but if the diseases included in the above returns may be regarded as representative, a point which appears of some interest is the comparatively marked existence of functional or organic nervous disease which, in one form or another, was

responsible for 2 deaths in 1911 and for 8 invalidings in 1910 and 1911.

The problems in tropical medicine which have during the past years engaged the attention of the authorities in East Africa have been of the utmost importance. I need only instance the decimation of natives by sleeping sickness and the ravages produced among them by venereal diseases, both of which have been, and are still being, tackled with energy, but it is also recognised that tropical sanitation has a large part to play in the prevention of disease. The recent growth of these Protectorates has been coincident with the growth of modern tropical science, and the application of its well-known principles—e.g., the reasonable segregation of Europeans, the proper laying out of towns and new stations, and the suitable siting and construction of houses, with attention to water-supply and drainage—should ensure that the excellent reputation for health which they have enjoyed in the past will be continued and improved upon in the future.

## THE SIXTEENTH ANNUAL REPORT OF THE EGYPTIAN GOVERNMENT HOSPITAL FOR THE INSANE.

THE present report of the well-known lunatic asylum near Cairo is for the year 1910, and is again written by Dr. J. Warnock, but since it has appeared the second asylum has been opened at Khanka, under the superintendence of Dr. H. W. Dudgeon, which will gradually relieve the perpetual overcrowding of the original institution.

*Statistics: Prevalence and Causation of Insanity.*

During the last 16 years the number of patients in the asylum has trebled, but this does not necessarily mean that lunacy is on the increase in Egypt. On the contrary, it is probably due to growing civilisation, for public policy now demands that more and more potentially dangerous lunatics shall be detained in the asylum instead of allowing them to be continually discharged and readmitted. Moreover, the general public is more ready to bring insane relatives when it is gradually learnt that asylums have become more humane in their methods. To these causes must be added, as we have pointed out on former occasions, the reduction in the asylum annual death-rate from 33·5 per cent. of the resident population to 10·2 per cent. in 1910. The number of better-class patients is gradually increasing, which betokens some public confidence in Dr. Warnock's management of the asylum, and £4870 were received for the treatment of patients in the paying block. Also, 16 patients were admitted as voluntary boarders on their own written demand. The daily average number resident in the asylum was 1234, while 737 cases were admitted during the year.

The greatest number of admissions were suffering from mania, and the next chief entry was 109 cases of pellagrous insanity, besides several others who were afflicted by pellagra. Four-fifths of the pellagrous lunatics came from Upper Egypt and Cairo, and 14 additional cases were admitted during the year into the temporary insane wards at the Tura Convict Prison. The crimes of these 14 were theft, murder of six people, attempt at murder, assault, and destroying cotton plants. Pellagra accounted for 21 deaths at the asylum during the year, being the chief cause of mortality, excepting 40 deaths from general paralysis. The general rate of mortality in the asylum was 10·2 per cent. In view of the immense importance to Egypt of the problem of the etiology of pellagra, it has been proposed to the Egyptian Government that a holder of a Beit scholarship should devote himself to research upon this subject in Egypt.

It used to be held that general paralysis was exceedingly rare in Oriental countries, but in Cairo every year cases have been admitted into this asylum, varying in number from 15 in 1902 to 50 in 1910. Of the 50 paralytics, 39 were undoubtedly syphilitic and 17 confessed to alcoholic habits. General paralysis accounted for nearly 10 per cent. of the admissions on the male side, and is apparently becoming more common among the natives, for 39 of the patients were Orientals. Alcoholic insanity is also increasing, for the admissions have risen from 21 cases in 1902 to 45 in 1910. The hasheesh (cannabis indica) habit accounted for 12 per cent. of the male patients admitted.

*Decreased Employment of Mechanical Restraint and Narcotics.*

During the year no less than 851 accidents to patients were recorded, mostly slight in character, but one lunatic in a single room succeeded in hanging himself from a high window bar by making a rope of his strong clothing. And there were ten instances of fractured bones, not due to ill-usage by attendants, but caused by falls or by patients quarrelling together. The report says: "Without doubt a more alert staff would prevent many of these accidents."

Only one patient was treated by wet packs, and five others were subjected to camisole restraint to prevent their removing bandages applied for fractures and wounds. The stomach tube was used for artificial feeding 5247 times, which gives some idea of the large number of acutely insane patients who without this measure would have died of starvation. The average seclusion was 238 hours per day, or, in other words, 30 patients were secluded for eight hours a day all the year round. In addition to a great reduction in the use of mechanical restraint and seclusion, the doses of narcotics, mostly paraldehyde, were diminished from 6758 in 1909 to 4966 during the year, in spite of the increased number of patients. This drug reduction is due, according to Dr. Dudgeon, to the increase of single rooms, because in a dormitory one noisy, restless individual used to necessitate half a dozen sleeping draughts being adminstered to his neighbours.

*Suggested Reforms.*

Dr. Warnock, in addition to other reforms, has been trying for five years to get the Egyptian Government to raise the pay of the nurses and attendants, so as to make it easier to find and retain a respectable class of employees. In order to show the necessity for this he states that "136 new employees were engaged during the year; 48 resigned their appointments, while 28 left without giving notice. Sixty were dismissed for the following reasons: 10 because information was received in disproof of their alleged good characters, 16 for repeated acts of neglect and irregularity, 6 for disobedience of orders, 8 for being repeatedly detected asleep on duty, 8 for striking patients, 3 for stealing patients' food or tobacco, 3 for ill-health, and 6 for general incompetence." He urges that asylum attendants should be paid at least as well as police constables. Another reform suggested is that the provincial medical officers should keep a register of all lunatics examined by them, and should send notes of the previous history to the asylum with the patient.

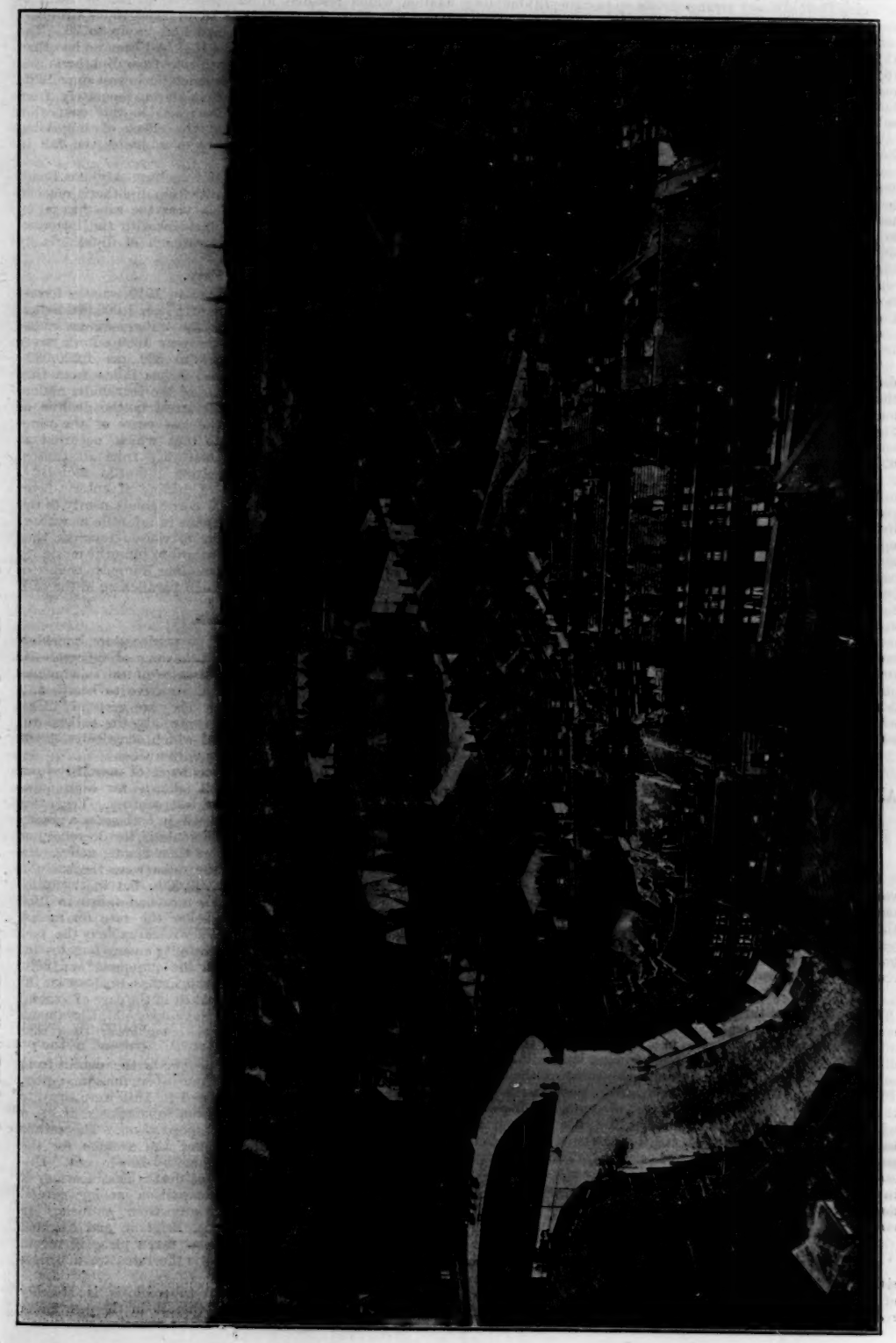
The custom in Egypt of repeatedly petitioning for the discharge of lunatics, however dangerous or demented, shows that the relatives have often no adequate knowledge of the uses of an asylum. Even after an inmate has murdered several people his relatives still urge his release. For instance, a fanatical barber addicted to hashish had a violent outbreak one day and tried to cut the throats of those of his clients who did not belong to his religion; one client was severely injured, but the relatives of the barber are now busy petitioning for his discharge, though they are aware that he is not fit to be trusted at home. It is not surprising to learn that when a convalescent is discharged, and when the promises of a responsible relative have been recorded, those promises are seldom kept. By the official returns it appears that during the year 13 persons were murdered in Egypt by lunatics, while attempts to murder 15 other persons were made; it is extremely improbable that these figures are complete. Dr. Warnock has done much to educate the Government and public opinion, but it is obvious that he has not yet completed his labours.

## LEEDS GENERAL INFIRMARY: THE SCHEME OF EXTENSION.

IN THE LANCET of June 15th, 1912, our Leeds correspondent briefly outlined the scheme of enlargement and reconstruction of the Leeds General Infirmary which is to be carried out as a memorial to King Edward in that city. The proposed extensions and improvements are so much needed and of such importance that some further reference to them is desirable. They will not only add greatly to the scope and efficiency of the institution itself, but will involve the rearrangement of neighbouring streets and the clearing of a "slum" area adjoining the present infirmary site.

The King Edward Memorial Fund was started in 1911, and of the £150,000 needed for the reconstruction of the infirmary over £110,000 have already been subscribed.

The requirements of the infirmary, as stated in a pamphlet



View of Leeds General Infirmary, showing buildings to be demolished. The course of the proposed new thoroughfare is indicated by the curved lines.

issued in 1911, were: (1) Modernising the existing wards and bringing their sanitary arrangements up to date; (2) building four new operating theatres; (3) providing additional accommodation for nurses; (4) building two additional wards; (5) making additions to the pathological department; (6) building additional rooms for the use of the casualty and out-patient departments; (7) providing new boilers and boiler house; and (8) making the alterations required to safeguard the patients and the buildings against fire.

After considering fully the question of removing the hospital to another locality it was determined that, if the necessary funds were forthcoming, the extensions should be carried out on the present site. Considerable progress has already been made towards satisfying the above requirements—thus, eight of the 13 existing large wards have been modernised, accommodation for five additional nurses and 30 additional patients has been provided, and the ward block which was burned down has been rebuilt on lines which render it practically fireproof, and other means have been taken to reduce the danger of fire. But it was impossible to cope with the other requirements without acquiring additional land, on which the new buildings could be erected.

The present scheme, as our correspondent pointed out, depends for its complete success upon coöperation between the city council and the hospital authorities, whereby the maximum of space may be acquired with the greatest advantage both to the institution and to the city. The infirmary board, adopting a bold policy, have already purchased over 6000 square yards of land adjoining their present site, and it is estimated that nearly the same amount of land will have to be acquired by the corporation in order to carry out their portion of the complete scheme. The plan now advocated by the infirmary board will enable them to build four new operating theatres, an addition to the existing nurses' home, a block of three large wards and additional rooms for the casualty and out-patient departments, and a new boiler house and laundry, in positions which are most convenient for the working of the institution and which will also afford opportunities for making great additions to the ward accommodation in the future without interfering with existing buildings, all this to be done with the minimum of expense. Our illustration, kindly lent by Mr. F. J. Bray, general manager of the infirmary, gives a view of the infirmary as it is now and shows the buildings which will be done away with. The lines across it show the course of the new road which it is proposed that the corporation should construct.

## ANNUAL REPORT OF THE REGISTRAR-GENERAL FOR 1910.

(*Concluded from page 712.*)

FURTHER examination of the vital statistics of recent years leads us inevitably to the conclusion that a main factor in the continued reduction of the general mortality is the unprecedentedly low death-rate within the first five years of life. In the year 1910 the mortality at every age group in both sexes was below that of 1909, itself a year of remarkably low death-rates.

### *Causes of Death.*

Commenting on the causes of death in 1910 Dr. Stevenson emphasises the fact that a large share of the whole number of deaths is contributed by four of the more important diseases—viz., tuberculosis, pneumonia, bronchitis, and cancer, which together account for one-third of the total. The proportions in which the different diseases contribute to the death roll are shown by a special diagram, in which the whole area of the circle represents the deaths from all causes, whilst the various segments represent deaths from particular causes or groups of causes. The statement already made that the mortality from all causes was lower in 1910 than in any previous year applies equally to the mortality from tuberculosis in all its forms, as well as to enteric fever and to scarlet fever.

### *Diphtheria and Antitoxin.*

If the deaths ascribed to diphtheria and croup are considered together, as most nearly representing the true fatality of the former disease, the mortality therefrom was the lowest recorded since 1880. Inquiries addressed to the practitioners certifying deaths as from "croup" elicited further information which resulted in the transfer of 123 of them to laryngitis, 42 to diphtheria, and 18 to laryngismus stridulus, reducing the number finally classed as croup to 73. The number so returned as recently as 1891 had been no less than 2638. In the year 1910 the death-rate from diphtheria and croup—viz., 122 per 1,000,000—is much the lowest since 1855, in which year diphtheria was first shown separately from scarlet fever in the official tables; and in this connexion it must be borne in mind that the effect of increasing accuracy in diagnosis is probably to minimise the fall in mortality.

From a recent report of the Metropolitan Asylums Board it appears that the London mortality from diphtheria reached its maximum in 1893, since which year the rate has fallen greatly, and this fall has been coincident with the introduction and increasing use of the treatment of diphtheria by antitoxic serum.

### *Enteric Fever.*

The mortality from enteric fever in 1910 was the lowest on record: it was equal to a rate of 53 per 1,000,000 living, and was below the average for the quinquennium ended 1909 by 24 per 1,000,000. In the year 1869 enteric fever accounted for a mortality equal to 390 per 1,000,000; within the 42 years since elapsed it has fallen from that figure to 53 per 1,000,000, the rate of the year under notice. It is interesting to note that the arrest in the decline of enteric fever mortality during the last years of the nineteenth century is comparable to that which occurred at about the same period in the mortality from all causes. This period was one of increasing infantile mortality. On the other hand, the period of decline of enteric fever mortality which set in about 1900 corresponds nearly to the similar period of recent improvement in infantile mortality. Further pursuing this point, Dr. Stevenson remarks that the experience of this country in regard to infantile mortality has been paralleled by that of most other European countries in this respect, but there is no such parallelism in the case of enteric fever.

### *Tuberculosis.*

In this report, as in several of its predecessors, considerable prominence is given to the behaviour of tuberculosis. It is beyond question that the diseases of the tuberculous group are in the aggregate more destructive to health and life than any others in the list. They are certainly in an exceptional degree amenable to control by the well-known measures, the due enforcement of which constitutes one of the foremost duties of our sanitary authorities.

In an instructive diagram the incidence of mortality from various forms of tuberculosis is shown for each quinquennium since the middle year of last century. From this we learn that although there has been in both sexes a steady decrease in the loss of life from tuberculosis, the decrease has been much greater among females than among males. In the quinquennium ended 1855 the rates were the same in both sexes—namely, 3637 per 1,000,000; but in the quinquennium ended 1910 the female rate had fallen to 1350 per 1,000,000, or 25 per cent. below the rate for males, which was 1798 per 1,000,000. Very remarkable is the fact that in the case of phthisis the mortality among females did not fall below that of males until the quinquennium 1866–70, but that since that period the excess in decrease of female mortality has been most marked in the case of general tuberculosis, the mortality from tuberculous phthisis among females in the last quinquennium being lower than that among males by 29 per cent.

In the Registrar-General's recent reports the deaths from tuberculous phthisis include those from tuberculous laryngitis. Taken together the deaths so classed in 1910 were equal to 71 per cent. of the total deaths from tuberculosis, and to a rate of 1015 per 1,000,000 of the population. This rate is the lowest on record, and is below the average for the quinquennium immediately preceding by 10 per cent. Disregarding variations in methods of death classification, it is possible to make a rough comparison among several countries as regards their mortality from phthisis. In Prussia, Scotland, the Netherlands, Belgium, and England a marked diminution in mortality has taken place in recent years. In three countries in the list the rates are in excess of those of England and Wales.

The mortality from meningeal tuberculosis is steadily decreasing, the deaths attributed thereto in the year under

notice being fewer by 655 than the average number in the previous quinquennium, after allowance for increase of population. As the deaths from simple meningitis were also below the average, there is no reason to doubt the reality of the decrease in the mortality from the tuberculous form of that disease. For the most part meningeal tuberculosis is a disease of early life, not less than 64 per cent. of the deaths at all ages occurring within the first five years of life. The deaths within the first year after birth were in the proportion of 131 per 100,000 infants born. This disease is generally more destructive to young children in the towns than in the country, the mortality in the selected urban districts being equal in the year under notice to a rate of 97, and in the rural districts to a rate of 49, per 100,000 living at ages under five years.

Under the head of tuberculous peritonitis, including tabes mesenterica, a diminishing mortality is recorded. Of the 4345 deaths so referred in 1910, not less than 62 per cent. occurred in children under the age of 5 years. Since the year 1880 the mortality ascribed to this disease has displayed a continuous decline, which in the course of the last five years has become remarkably rapid. As in the case of the meningeal form of tuberculosis, the mortality from tuberculous peritonitis is much greater in the towns than in the country, the rates among children under 5 years being equal to 78 per 100,000 in the selected urban counties and to 35 per 100,000 in the rural.

*Malignant disease.*

The mortality from cancer appears to be still increasing. The total death-rate in 1910 was the highest hitherto recorded, the increase among males more than counterbalancing a slight decrease among females. For the former sex the rate was equal to 856 per 1,000,000, and for the latter sex it was equal to 1070 per 1,000,000. From the year 1861 to the year 1880 the increase of female mortality was greater than that of males, but since 1890 the reverse has been the case, the recorded male mortality having increased by 333 and the female by 218 per 1,000,000 living. The mortality from malignant diseases is not great among persons below the age of puberty. Among men above the age of 35 years the organ most frequently affected is the stomach, and next to it the liver and the rectum. Among women the uterus is the principal seat of fatal cancer up to the age of 65, the stomach from 65 to 75, and the breast after 75. Apart from the reproductive system, the stomach and liver are most frequently affected among women, as they are among men. In both sexes the greatest relative increase, and in the female sex the greatest absolute increase, has been that from cancer of the intestines, the mortality attributed to which among women has practically doubled during the last 14 years. Doubtless this is very largely due to improvements in diagnosis. In the case of rectal cancer the increase has been greatest among men. From a table we learn that the mortality from cancer recorded in England and Wales exceeds that of most other countries. In all countries for which returns are available the mortality from cancer has shown a tendency to increase in recent years.

## OPENING OF THE LONDON MEDICAL SCHOOLS.

WINTER SESSION, 1912–13.

*St. Bartholomew's Hospital.*—The session will open on Oct. 1st, and will be inaugurated by the old students' annual dinner that evening at 7 o'clock in the Great Hall of the Hospital, at which Dr. H. Lewis Jones will take the chair. Dinner tickets, price 21*s.*, may be obtained from the honorary secretary, Mr. H. J. Waring, 37, Wimpole-street, or at the door.

*Charing Cross Hospital.*—The session will open on Oct. 2nd at 3.30 P.M., when the annual distribution of prizes will be made by the Right Rev. the Lord Bishop of Peterborough. The dinner of the past and present students will take place on the evening of Oct. 31st after the delivery of the Huxley lecture by Professor Simon Flexner, of the Rockefeller Institute, at 3 P.M.

*St. George's Hospital.*—The session will open on Oct. 1st at 3 P.M., when Mr. H. R. Grimsdale, ophthalmic surgeon to the hospital, will deliver the inaugural address. The annual dinner will take place at Princes Restaurant, Piccadilly, W., on the same day at 7 P.M., Dr. Frank Penrose in the chair. Dinner tickets 21*s.* Honorary Secretaries, Mr. Norman G. Bennett, 50, Brook-street, London, W., and Dr. A. J. Jex-Blake, 47, Brook-street, London, W.

*Guy's Hospital.*—The session will open on Oct. 1st. The opening meeting of the Pupils' Physical Society will take the form of a conversazione on Oct. 4th at 8.30 P.M.

*King's College Hospital.*—The session will open on Oct. 1st. The annual dinner of past and present students will be held on the same day at 7 P.M. at the Waldorf Hotel, Aldwych, W.C. Professor Norman Dalton will preside. Dinner tickets (7*s.* 6*d.*, exclusive of wine) can be obtained from Mr. F. F. Burghard, 86, Harley-street, London, W.

*London Hospital.*—The session will open on Oct. 1st, when Professor T. Wardrop Griffith will deliver the Schorstein lecture at 4 P.M. The students' dinner will be held in the evening of the same day at the Savoy Hotel, Strand, W.C., at 7.30 P.M., Mr. Jonathan Hutchinson in the chair. The price of the tickets will be 12*s.* 6*d.*, exclusive of wine. Honorary secretaries, Dr. Lewis A. Smith, 25, Queen Anne-street, London, W., and Mr. F. S. Kidd, 55, Harley-street, London, W.

*Middlesex Hospital.*—At 3 P.M. on Oct. 1st Dr. W. S. Lazarus-Barlow will give the introductory address, after which the prizes gained during the previous session will be distributed by Sir Charles Wyndham. The annual dinner of the past and present students will take place at the Trocadéro the same evening at 7 o'clock, Dr. H. Campbell Thompson in the chair.

*St. Mary's Hospital.*—The session will begin on Oct. 1st at 3.30 P.M., when the prizes and awards for the past year will be presented by the Lord Mayor of London. The annual dinner of past and present students will be held at Princes Restaurant on Oct. 2nd, at 7 P.M., Dr. W. J. Gow in the chair. Tickets, price 10*s.* 6*d.*, exclusive of wine, may be obtained from the honorary secretary, Mr. V. Warren Low, 146, Harley-street.

*St. Thomas's Hospital.*—The session will begin on Oct. 1st, when the annual students' dinner will be held at the Hotel Cecil at 7.30 P.M., the Lord Mayor of London, Sir Thomas Boor Crosby, in the chair.

*University College Hospital.*—The session will open on Oct. 1st. The annual dinner of past and present students will be held at the Café Royal, Regent-street, on Oct. 2nd, at 7.30 P.M. Sir Rickman Godlee in the chair. Price of tickets 10*s.* 6*d.*, exclusive of wine.

*Westminster Hospital.*—The session will open on Oct. 3rd, and the annual dinner will take place on the same evening at the Waldorf Hotel at 7.30 P.M., Mr. W. G. Spencer in the chair.

*London School of Medicine for Women.*—The inaugural address will be delivered by Miss Jane H. Walker, M.D., on Oct. 1st, at 4 P.M.

## ASYLUM REPORTS.

*Staffordshire County Lunatic Asylum at Stafford (Annual Report for the Year 1911).*—The average number resident at this asylum was 870, the admissions numbered 219, 106 men and 113 women, of whom 20 men and 20 women had previously been under care in this or some other asylum. The causes of the mental trouble, so far as they could be ascertained, were attributed to heredity, alcohol, mental stress, and epilepsy. 101 patients were discharged, 44 men and 57 women, of whom 27 men and 26 women had recovered, giving a percentage of 25·11 on cases admitted. The deaths numbered 125, 62 men and 63 women, giving a percentage of 11·5 to the number under treatment. The chief causes were: general paralysis 10, heart disease 15, pneumonia 14, pulmonary tuberculosis 22, epilepsy 8, bronchitis and pleurisy 6, and senile decay 17. Post-mortem examinations were made in 62 cases, not a very high percentage. It appears that the committee has decided to satisfy the long-felt want for a Nurses' Home, the present accommodation being far from what it ought to be.

*Staffordshire County Lunatic Asylum at Burntwood, near Lichfield (Annual Report for the Year 1911).*—At this asylum the average daily number on the register during the year was 933. There were admitted during the year 307 cases. The admission rate was a high one, but it appears that the chances are that it will be some years before there will be

as many fresh cases, since the size of the administrative county is not increasing, and the authorities of the neighbouring city of Birmingham are making arrangements for the accommodation of the Handsworth patients, who formed a considerable portion of those received at this asylum. 156 patients were discharged during the year, of whom 72 were recovered, 65 were relieved, and 19 were not improved. The proportion per cent. of recoveries to admissions was 25·08. The deaths numbered 134, the proportion per cent. to the total number under treatment being 11·03, and to the average number daily resident 14·36. The causes of death were: tuberculosis, 18·65 per cent.; epilepsy, 10·4 per cent.; general paralysis of the insane, 14·9 per cent.; and diseases of the heart, 11·19 per cent.

*Staffordshire County Lunatic Asylum at Cheddleton (Annual Report for the Year 1911).*—The average daily number on the registers at this asylum was 1052, the total cases under treatment during the year having been 1281. 261 cases were admitted. Of those directly admitted, 170 were already chronic, while 78 were regarded as recoverable. 148 cases were discharged during the year; of these, 60 were recovered, 17 were relieved, and 63 were not improved, the percentage of total recoveries on the total number of admissions being 26·05, and on the direct admissions 28·33. The deaths numbered 102, tuberculosis accounting for 23 deaths, general paralysis for 20, chronic degenerative disorders for 33, pneumonia for 8, and dysentery for 5. The fall in the total number of deaths, from 125 in 1910 to 102 in 1911, is gratifying, in that the reduction is largely composed of preventable disorders. Thus, 9 fewer died of tuberculosis, 10 fewer of dysentery, and 7 fewer of pneumonia.

*Surrey County Lunatic Asylum at Brookwood (Annual Report for the Year 1911).*—The total number of cases treated at this asylum was 1444, the average number resident being 1183. There were admitted during the year 334 cases. The direct admissions numbered 183, and as regards prospect of recovery were of an unfortunate type, it being considered possible in only 29 men and 51 women. Hereditary influences were ascertained to have been factors in 33 per cent. of the cases. 110 cases were discharged during the year, 20 males and 41 females being discharged as recovered, giving a recovery rate calculated on the admissions, but excluding transfers from other asylums, of 32·79 per cent. Ninety patients died during the year, giving a percentage on the daily average resident of 7·61. Post-mortem examination were held in 86 per cent. of the deaths.

*Surrey County Lunatic Asylum at Netherne (Annual Report for the Year 1911).*—The average number resident at this asylum was 867. 352 cases were admitted, and of these 37 were suffering from congenital mental defect, 18 from epilepsy, and 28 from senile dementia. Factors assigned as the chief causes of the insanity of those admitted were: hereditary predisposition in 24·8 per cent. cases, worry and mental stress in 12·4 per cent., senile decay in 9·9 per cent., alcohol in 5·8 per cent., and congenital defect in 3 per cent. It would appear, however, that alcoholic excess is often found to be a part of the disease rather than its immediate cause. Great difficulty appears to be experienced in obtaining a true history, especially where there is a history of heredity. This is markedly so in the cases of those of the private class, who neither wish to disclose their private family affairs nor, indeed, are willing to recognise the facts of the case themselves. The deaths numbered 84, the percentage on the average number resident being 9·68. Post-mortem examinations were made in only 42 per cent. of the deaths. The percentage of recoveries on the admissions since the opening of the asylum in April, 1909, is 30·32.

*Wilts County Asylum (Annual Report for the Year 1911).*—The total number of cases under care during the year at this asylum were 1177, the average number resident being 993·8. The admissions numbered 201, which exceeded any previous record by 12, and were 28 higher than in 1910. The assigned causes of illness in those admitted were heredity, mental stress, and intemperance in the order named. Of those admitted, the majority were reduced in flesh and bodily strength, and did not give much promise as to future recovery; 23 were readmissions. 101 persons were discharged, and of these 70 were recovered, 22 relieved, and 9 not improved, the proportion per cent. of recoveries to admissions being 34·8. The deaths numbered 93, the percentage on the average number resident being 9·3. The duration of residence in the asylum of those dying varied from less than two days to over 40 years. The chief causes of death were senile decay in 18·5 per cent., tuberculosis and general paralysis 16 per cent. each, and degeneration of the heart in 14 per cent. of the cases. Post-mortem examinations were held in 65 instances. The Commissioners in Lunacy in their report pointed out that it has become evident that the time has arrived when a committee will have seriously to consider the advisability of providing further accommodation at this asylum.

*Joint Counties Asylum for the Treatment of Mental Disease, Carmarthen (Annual Report for the Year 1911).*—The average daily number on the register at this asylum was 695. The number on the register on Dec. 31st, 1911, showed an increase of five over the number remaining at the end of the previous year, and brought the excess of population over proper accommodation up to 95. In their report the Commissioners in Lunacy give an account of the endeavours that have been made to settle those differences between the three counties interested in this asylum which have long delayed the carrying out of the necessary improvements so frequently urged by the Visiting Commissioners. It appears that all was well on the way to settlement, and that contracts for the purchase of the land required had been made and forwarded for the approval of the Secretary of State, when disputes again broke out between the counties. This may have the effect of indefinitely postponing the carrying out of the improvements resolved upon. The Commissioners hope that wiser counsels will prevail, and that so grave a scandal as would be involved by the continuance of the present condition of the asylum will not arise. We trust that in this the Commissioners are not over-sanguine. 113 cases were admitted during the year; 72 of these were first attack cases, and of these 43 were admitted within three months of the supposed onset of the mental disorder, being therefore of the class most suitable for treatment. In 35 cases the form of insanity was such as precluded any hope of recovery. The bodily health of those admitted was good in 14 persons, fair in 64, and reduced in 35. In 34 of the direct admissions there was ascertained the history of hereditary insanity or allied disorders, and it is probable that with fuller information this figure would have been nearer 50 per cent. Mental stress was assigned in 48 cases and alcoholism in 18 cases. Dr. John Richards, the medical superintendent, points out with regard to alcoholism as a factor in the causation of mental disease that it is in many cases merely a symptom of graver underlying degeneracy, drink in small doses being often sufficient to bring to light mental abnormalities which would otherwise pass unobserved to the next generation, to be then reproduced on a more extensive scale. Sixty-six cases were discharged, and of these 40 were recovered, the average duration of residence of these cases being between nine and ten months. The proportion per cent. of recoveries to admission was 38·09. The deaths numbered 42, and necropsies were performed in 34 cases. The proportion per cent. of deaths to the average number daily resident was 6·06.

# Public Health.

## REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

*On the Sanitary Circumstances and Administration of the Mallwyd Urban District*, by Dr. MORGAN J. REES.[1]—This report gives a melancholy picture of the sanitary conditions which obtain in the corner of the county of Merioneth in which Mallwyd is situated. The countryside, from an industrial point of view, is decaying, and its population is becoming smaller. Cottages which become empty are allowed to fall into ruins, while those which are occupied are often in a deplorable state of dilapidation. Some are built back to earth, and nearly all are damp owing to absence of damp course and spouting and to deficient mortar in the external walls. They are dark and badly ventilated, and the phthisis mortality of their occupants is high. The village water-supplies are unprotected and liable to contamination; nothing is done by the local authority in regard

[1] Reports to the Local Government Board on Public Health and Medical Subjects. New Series. No. 68. London: Wyman and Sons, Fetter-lane. Edinburgh: Oliver and Boyd. Dublin: E. Ponsonby. Price 2d.

to scavenging or refuse disposal, or for the prevention of pollution of streams; the cowsheds are ill-constructed and appear as though they have never been cleaned; the slaughtering of animals for food is done practically anywhere, while the district has no arrangements for hospital accommodation for cases of infectious disease. While it would be absurd to judge the sanitary circumstances of remote agricultural villages by the standards of modern cities and their suburbs, it should be recognised that it is within the capacity of local authorities to produce a marked improvement in such conditions as Dr. Rees describes. Examples can be found in rural districts in England, and particularly in Scotland, where this has been done in recent years with conspicuous advantage to the healthiness and amenities of the place and without incurring unmanageable expense. In Mallwyd, however, it is evidently hopeless to expect anything, owing to the system of local government in force. For some reason or other, an area of over 14,000 acres, which comprises a few small villages and scattered houses, with a total population of 757, has been allowed to be formed into an "urban district," autonomous for the administration of the Public Health Acts and for other purposes, and having to possess its own clerk, medical officer of health, surveyor, inspector of nuisances, and other officers required under statute. The general district rate of 1*s.* 3*d.* means a total income of only some £130 for all purposes of the district council, and much of this must be wasted in adapting an unsuitable and cumbrous machinery to local needs. It is obvious that this district should be abolished and merged in a larger administrative area. Apparently the Local Government Board has no power to do this, and although the county council can, the central department is not able to exercise any compulsion on the county in the matter. After the publication of Dr. Rees's report, however, it is difficult to see how the county authorities can reasonably act otherwise. The report will be of value also if it hastens the legislative reform of areas of sanitary government in England and Wales, which has been long overdue.

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### REPORTS OF SCHOOL MEDICAL OFFICERS.

*City of Birmingham.*—Dr. George A. Auden's report for 1911 is not only very comprehensive, but is very interesting reading. In the area is a school population of 148,000, and there are 183 schools, 7 schools for mentally defective, 2 for physically defective, 3 for deaf, 1 for partially blind children, and 1 open-air school. Birmingham is divided into six districts and a school doctor is allocated to each, three of whom are men and three women, and nine school nurses cover the same area. It is anticipated, however, that this staff will need increase. The whole of the work is now under the oversight of a Hygiene subcommittee, which has advisory powers as regards school buildings, and the Central Care Committee works as a subcommittee under it. By this latter committee a very useful work is done in endeavouring to link up the school work and that of the Labour Exchanges, and a system for the supply of confidential information to this latter body is in operation. It is further hoped to make the records of medical inspection available for the factory surgeons. Local care committees, however, are not fully organised, although good work is done by the Women's Settlement in conjunction with the Charity Organisation Society. The report fully recognises the value of a school clinic, but very little has been done towards organising this. An experimental ophthalmic clinic at Aston, carried on for a short period previous to the inclusion of this district within the area of Birmingham, dealt with 270 cases of refraction defects. At one school a nurse gives treatment for minor ailments under the auspices of lady health visitors attached to the school. To stimulate the interest of parents in their children's health special "parents' evenings" have been begun in one district, and at these a medical officer explained the meaning and scope of medical inspection, and gave suggestions on the bringing up of children generally. The arrangement for the evenings was largely the result of the enthusiasm of the teachers. At the Inspection Clinic 791 cases were prescribed spectacles, but only 336 obtained them, a result indicating a great waste of the medical officer's time. An outbreak of ophthalmia, which could only be dealt with by exclusion in the ordinary way, showed the wastefulness of the lack of treatment. To stamp out an epidemic which might have been done at a cost of 5*s.* had a clinic existed, it was necessary to organise a weekly inspection of cases, and what was practically a temporary *ad hoc* clinic, after the epidemic had caused a serious loss of school attendance. Further, it is estimated that in the enlarged area (Birmingham has absorbed five neighbouring districts) there are 1400 children excluded for ringworm. Photographs are given of the open-air school, and the provision of open-air classrooms attached to the ordinary schools is urged. The example of Boston (Massachusetts) is cited, where it appears that no new school will be built henceforward without an open-air class-room. As it is necessary to make use of temporary schools owing to the rapid and irregular growth of the city the use of Döcker pavilions is suggested. A photograph of the Rettig school desk is given, and this is suggested as a model, but it is noted that some unsuitable desks have been placed in schools during the year under review. It would appear that medical officers of schools should have more power to impress their views and expert knowledge on the authority before as well as after purchase. The adoption of the German plan for fitting desks and children is suggested, where a height standard on the door-jamb is marked with the desk index suitable.

*Barry Urban District Council.*—Mr. George Neale's report for 1911 shows that the conditions of cleanliness and clothing are improving, an index not only of the efficiency of the school nurse but of the thorough character of the medical inspection work. It is noted that the number of cases of endocarditis is greater than in 1910. The most important feature of the report is the record of the beginning of a school clinic. The scheme, which has been sanctioned by the Board of Education, will eventually deal with ear, nose, and throat defects, operations for removal of tonsils and adenoids, treatment of discharging ears, external eye diseases, errors of refraction, X ray treatment for ringworm, and treatment of "minor ailments." The ear, nose, and throat section of the clinic began last November, the cases being attended by a staff of local medical practitioners at the Accident Hospital every Friday. Thirty-nine operations were performed in November and December. Cases of otorrhœa were also treated. It is reported that there is a growing desire on the part of parents for operation in nose and throat defects. Mr. Neale has been helped in his medical inspection by some of the medical practitioners of the town.

*County Borough of Hastings.*—During 1911 Mr. O. Polhill Turner has devoted much time and thought to the study of the treatment of defects found at medical inspection, and has visited special schools and clinics in London, Bradford, and Manchester, among which he mentions the St. George's Clinic in Blackfriars, London, and the Bradford Clinic. As a result of the ventilation of the matter in Hastings it is now proposed to start a school clinic, experience having shown the impossibility of adequate treatment in the town apart from this. Two attempts made by the education committee to arrange for the treatment of ringworm failed—with the hospital because this institution could not undertake the work, and with a dispensary which proposed to treat cases by drugs only and not by X rays. A useful *résumé* of the work of the year is given, and an interesting analysis of the family history of 53 boys and 44 girls reported as mentally defective. In 18 cases there was a history of nervous trouble on the father's side and in 15 on the mother's, in 19 cases there was produced evidence of ill-health of the mother during pregnancy, and in only 4 cases was history of injury at birth obtained. Mr. Turner draws attention to the importance of the age at which walking and talking begin as an aid to diagnosis. These points might well be added to the schedule of the Board of Education.

*Borough of Chelmsford.*—During the year 1911 713 children were medically inspected, 445 "entrants," 213 "leavers," and 55 special cases. Cleanliness and nutrition have improved since last year. But despite improvement and despite the small number of cases compared with larger areas, Mr. H. W. Newton is compelled to strongly urge the provision of a school clinic for eye and dental defects. No case of ringworm was found during the year, and arrangements have been made to have removal of tonsils and adenoids performed at the hospital at a fee of £1 1*s.* per case. Some serious defects in school buildings are reported, and as changes are obviously needed the authority might well consider the advisability of providing school buildings on the open-air system as these are cheap and efficient.

### PUBLIC HEALTH IN SHANGHAI.

The chief concern of the health authority in Shanghai during the past year has been the menace from plague in Manchuria and the consequent likelihood of epidemic spread throughout China. Happily, these fears have not been realised. The population was calculated in the middle of 1911 at 492,000 Chinese and 13,770 foreigners, of whom Japanese and British are the most numerous. The death-rate among this resident foreign population for the year 1911 was only 16·8 per 1000, an improvement on the mortality ratios of the preceding four years; the Chinese mortality was only 13·8 per 1000, also a lower figure than in any year since 1906. The chief causes of death among Europeans and Japanese have been tuberculosis, diarrhœa and dysentery, cardio-vascular diseases, small-pox, and typhoid fever. Of the notifiable diseases tuberculosis was the most fatal both amongst foreigners (causing 40 deaths) and Chinese (causing 789 deaths). Notification is not obligatory by law, but is carried out by mutual arrangement between the public health department and the medical profession, the former undertaking pathological diagnosis and paying a fee for notification. This voluntary arrangement is stated to work well, so far as it goes. It is very satisfactory to learn that the Chinese are beginning to appreciate vaccination, as compared with inoculation, which they have practised for centuries. Dr. Arthur Stanley, the health officer, who submits the report under consideration, believes that probably vaccination will be extensively adopted by the Chinese, though naturally they are loth to abandon their time-honoured custom of inoculation. Dr. Stanley, in connexion with cholera and typhoid fever prevention, advises residents to carry out the simple rule of eating and drinking nothing that has not been recently cooked, or boiled, or otherwise sterilised; by this means "chills," liver affections, and bowel troubles, to which the Shanghai resident is particularly liable, will be entirely avoided. Berkefeld "candles" should be boiled at least once a week, and ice should not be put into drinks. This is thoroughly sound advice that is none the less true because it is no longer new. Scarlet fever was practically unknown in Shanghai before 1900; in 1902 there was a severe epidemic among the Chinese, causing 1500 deaths; it has since prevailed more or less nearly every year, and with the Chinese it is of a virulent type. In the tropics generally it is almost unknown, and nowhere else in Asia (except in Asia Minor) does the disease appear to have established itself as it has done in Shanghai. Tuberculosis continues to be an important and fatal disease. The health officer states that the lessening of the death-rate among Chinese is due to the deaths being hidden, or returned as from some other cause (on account of dislike of the disinfection that has to be carried out), rather than to any amelioration in respect of the disease. Overcrowding is the obvious and sufficient cause; "indiscriminate spitting and deficient air-space are the chief causes of consumption." Notices have been distributed amongst the native population similar to those with which we are familiar at home in regard to spitting, &c., but what is really needed is a sanatorium for treatment, such as is being established in Bombay. In regard to plague, infected rats were found in December, 1908, and since then a complete plague survey has been maintained in the settlement. Of 14,929 rats found dead during 1911 there were 138 that on examination proved to be infected; in addition, 177,040 rats were trapped and burned. The use of phosphorus as a bait proved to be an effective method of dealing rapidly with plague foci; the poison has been used in the form of bright blue cubes, instead of being spread on bread as formerly, and no adventitious cases of poisoning have been reported. Disinfection and rat-proofing has been carried out in 11,653 houses where cats were not kept, with good results. In the eastern district, where the infection was most intense in the preceding year, no plague-infected rats have been found since May, 1910; this is most satisfactory, and is good evidence as to the thoroughness with which the work was carried out. Rat-proof receptacles for house refuse on Chinese property have also been provided, and marked improvement in the cleanliness of the alleys has resulted. There is still danger from the existence of the insanitary district of Chapei, on the western border of the settlement. This is under native administration, and no measures have been taken for the destruction of rats. A rat-proof iron barricade, with rat-proof gates, guarded at night, has been erected between this district and the settlement. As in 1910, Mus rattus has formed about 70 per cent. of the rats examined, the remainder being Mus decumanus, the sewer rat. Pulex cheopis is the flea usually associated with spread of plague from rat to man; C. fasciatus has also been identified. Malaria is prevalent, but of a benign character; the usual anti-mosquito measures are carried out. As to beri-beri, it is stated that the evidence is in favour of the disease being infective through body vermin; but no facts are given in support of this statement, which is contrary to the weight of testimony at present available. The water-supply continues to be satisfactory, and in regard to milk- and food-supplies generally there has been a progressive improvement. Dr. Stanley is to be congratulated on the success that has attended his sanitary administration, and on his valuable report.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN the 95 largest English towns, with an aggregate population estimated at 17,639,881 persons at the middle of this year, 8443 births and 3895 deaths were registered during the week ended Sept. 7th. The annual rate of mortality in these towns, which had been 11·6, 11·4, and 11·2 per 1000 in the preceding three weeks, rose to 11·5 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these 95 towns averaged 11·3 per 1000, against 11·4 in London during the same period. The annual death-rates in the several towns last week ranged from 5·0 in Devonport, 5·4 in Hornsey and in Southend-on-Sea, 5·6 in East Ham, 5·9 in Southport, and 6·1 in Acton, to 16·6 in Tynemouth, 16·8 in Liverpool, 17·5 in Halifax, 18·1 in Middlesbrough, and 18·8 in Burnley.

The 3895 deaths from all causes were 110 in excess of the number in the previous week, and included 399 which were referred to the principal epidemic diseases, against 396 and 403 in the preceding two weeks. Of these 399 deaths, 183 resulted from infantile diarrhœal diseases, 83 from measles, 52 from whooping-cough, 36 from diphtheria, 25 from scarlet fever, and 20 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 1·2 per 1000 persons living, and coincided with the rate in each of the preceding two weeks. The deaths of infants under 2 years of age attributed to diarrhœa and enteritis, which had been 199, 183, and 203 in the preceding three weeks, fell to 183 last week, and included 67 in London and its suburban districts, 19 in Liverpool, 9 in Sheffield, 8 in Birmingham, and 6 in Hull. The deaths referred to measles, which had steadily declined from 156 to 90 in the preceding seven weeks, further fell to 83 last week, and caused the highest annual death-rates of 1·7 in Rochdale, in Tynemouth, and in Rhondda, 2·0 in Middlesbrough, and 2·2 in Bootle. The fatal cases of whooping-cough, which had been 49, 44, and 61 in the preceding three weeks, declined to 52 last week; 10 deaths occurred in London, 5 in Birmingham, 5 in Liverpool, 4 in Nottingham, and 3 in Burnley. The deaths attributed to diphtheria, which had declined from 36 to 23 in the preceding four weeks, rose to 36 last week, and included 11 in London and its suburban districts, and 2 each in Portsmouth, Liverpool, Bradford, Sheffield, and Hull. The deaths referred to scarlet fever, which had been 16, 23, and 18 in the preceding three weeks, rose to 25 last week; 5 deaths were recorded in London, 4 in Birmingham, 2 in Liverpool, and 2 in Leeds. The fatal cases of enteric fever, which had declined from 20 to 8 in the preceding three weeks, rose to 20 last week, and included 4 in Manchester, 3 in Halifax, and 2 in Wigan.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had been 1559, 1512, and 1525 at the end of the preceding three weeks, had increased to 1564 on Saturday last; 228 new cases of this disease were admitted to these institutions during the week, against 182, 167, and 213 in the preceding three weeks. These hospitals also contained on Saturday last 878 cases of diphtheria, 497 of measles, 302 of whooping-cough, 33 of

enteric fever, and 1 of small-pox. The 1016 deaths from all causes in London were 23 in excess of the number in the previous week, and were equal to an annual death-rate of 11·7 per 1000. The deaths referred to diseases of the respiratory system, which had been 119, 125, and 91 in the preceding three weeks, rose to 105 last week, and were 10 in excess of the number registered in the corresponding week of last year.

Of the 3895 deaths from all causes in the 95 towns last week, 177 resulted from different forms of violence, and 341 were the subject of coroners' inquests. The causes of 36, or 0·9 per cent., of the deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in 13 of its 14 suburban districts, in Manchester, Leeds, Bristol, Bradford, Newcastle-on-Tyne, Nottingham, Portsmouth, and in 50 other smaller towns. The 36 uncertified causes of death last week included 7 in Liverpool, 3 in Dudley, 3 in Birmingham, 2 in Blackburn, and 2 in South Shields.

### HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons in the middle of this year, 1022 births and 530 deaths were registered during the week ended Sept. 7th. The annual rate of mortality in these towns, which had been 12·0 and 13·1 per 1000 in the preceding two weeks, declined to 12·7 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual rate of mortality in these Scotch towns averaged 13·2 per 1000, against 11·3 per 1000 in the 95 large English towns during the same period. Among the several Scotch towns the annual death-rates last week ranged from 5·2 in Clydebank, 6·2 in Ayr, and 7·5 in Motherwell, to 15·8 in Dundee, 16·5 in Greenock, and 16·8 in Falkirk.

The 530 deaths from all causes were 18 fewer than the number in the previous week, and included 51 which were referred to the principal epidemic diseases, against 39 and 59 in the two preceding weeks. Of these 51 deaths, 30 resulted from infantile diarrhœal diseases, 9 from whooping-cough, 9 from diphtheria, 2 from scarlet fever, and 1 from enteric fever, but not one from small-pox or from measles. The 51 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·2 per 1000, which coincided with the rate from these diseases in the 95 large English towns. The deaths of infants under 2 years of age attributed to diarrhœa and enteritis, which had been 21, 19, and 29 in the preceding three weeks, were 30 last week, and included 13 in Glasgow, 6 in Dundee, and 2 each in Aberdeen, Leith, Greenock, and Govan. The deaths referred to whooping-cough, which had been 22, 11, and 12 in the preceding three weeks, declined to 9 last week; 4 deaths were registered in Glasgow and 2 in Hamilton. The 9 fatal cases of diphtheria last week were 4 in excess of the average in the preceding weeks of this quarter, and included 6 deaths in Glasgow. The 2 deaths attributed to scarlet fever were recorded in Aberdeen and Ayr respectively, and the fatal case of enteric fever in Aberdeen.

The deaths referred to diseases of the respiratory system in the 18 Scotch towns, which had been 62, 55, and 68 in the preceding three weeks, fell to 59 last week; 24 deaths were attributed to different forms of violence, against numbers decreasing from 25 to 19 in the preceding three weeks.

### HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an aggregate population estimated at 1,154,150 persons at the middle of this year, 616 births and 288 deaths were registered during the week ended Sept. 7th. The annual rate of mortality in these towns, which had been 13·1, 14·8, and 14·9 per 1000 in the preceding three weeks, declined to 13·0 per 1000 in the week under notice. During the first ten weeks of the current quarter the mean annual death-rate in these Irish towns averaged 14·5 per 1000; in the 95 large English towns the corresponding death-rate did not exceed 11·3 per 1000, while in the 18 Scotch towns it was equal to 13·2 per 1000. The annual death-rate in the several Irish towns last week was equal to 15·0 in Dublin (against 11·7 in London), 10·9 in Belfast, 12·9 in Cork, 11·5 in Londonderry, 20·3 in Limerick, and 22·8 in Waterford, while in the remaining 16 towns the mean rate did not exceed 10·6 per 1000.

The 288 deaths from all causes in the 22 Irish towns were 42 fewer than the number in the previous week, and included 32 which were referred to the principal epidemic diseases, against 43 and 36 in the preceding two weeks; of these 32 deaths, 17 resulted from diarrhœal diseases, 7 from whooping-cough, 5 from scarlet fever, 2 from diphtheria, and 1 from measles, but not one from enteric fever or from small-pox. These 32 deaths from the principal epidemic diseases were equal to an annual rate of 1·4 per 1000, against 1·2 per 1000 in the 95 large English towns and in the 18 Scotch towns. The deaths attributed to diarrhœa and enteritis, which had been 13, 21, and 16 in the preceding three weeks, were 17 last week, all but one of which related to infants under 2 years of age; 8 deaths occurred in Dublin, 4 in Belfast, and 3 in Waterford. The deaths referred to whooping-cough, which had been 6, 8, and 7 in the preceding three weeks, were again 7 last week, and included 3 in Dublin and 3 in Limerick. Of the 5 fatal cases of scarlet fever, which were slightly in excess of recent weekly numbers, 4 were registered in Belfast and 1 in Limerick. The 2 deaths referred to diphtheria were recorded in Dublin, and the fatal case of measles in Ballymena.

The deaths referred to diseases of the respiratory organs in the 22 towns, which had been 40, 46, and 49 in the preceding three weeks, were 47 in the week under notice. Of the 288 deaths from all causes, 94, or 33 per cent., occurred in public institutions, and 6 resulted from different forms of violence. The causes of 11, or 3·8 per cent., of the total deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 large English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

## THE SERVICES

### ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeon: J. C. G. Reed to the *Natal*, on recommissioning. Staff-Surgeon: F. F. Lobb to the *Glasgow*, on recommissioning. Surgeons: S. H. Vickery to the *Hebe*, on recommissioning; and L. H. Richardson to the *Natal*, on recommissioning.

### ROYAL ARMY MEDICAL CORPS.

Lieutenant Theodore W. Stallybrass is seconded for service with the Egyptian Army (dated August 15th, 1912).

Lieutenant-Colonel Robert J. Copeland, from the Half-pay List, is restored to the establishment, vice Lieutenant-Colonel C. R. Tyrrell (dated Sept. 10th, 1912).

Colonel S. Westcott, C.M.G., lately in charge of the Military Hospital at Edinburgh, has taken up duty at Portsmouth as Assistant Director of Medical Services, Portsmouth District. Colonel F. J. Jencken has joined the headquarters of the Cavalry Divisions at Royston as Assistant Director of Medical Services. Colonel R. Kirkpatrick, C.M.G., lately in charge of the Military Hospital at Cairo, has been transferred to South Africa as Assistant Director of Medical Services at Bloemfontein.

Lieutenant-Colonel R. S. F. Henderson, honorary physician to His Majesty the King, has taken up duty at Quetta Cantonment in command of the Station Hospital. Lieutenant-Colonel H. T. Knaggs has been transferred from Alexandria to Cairo and appointed to hold charge of the Military Hospital. Lieutenant-Colonel F. S. Le Quesne, V.C., has been transferred from the Royal Herbert Hospital at Woolwich to the Military Hospital at Gravesend and appointed Commandant. Lieutenant-Colonel A. E. Tate has been selected for appointment as Honorary Physician to H.E. the Viceroy and Governor-General of the East Indies. Lieutenant-Colonel H. Carr has been selected for the increased rate of pay under Article 317 of the Royal Warrant for Promotion.

Major I. A. O. MacCarthy has taken up duty in charge of the Fourth Cavalry Brigade Field Ambulance at Divisional Manœuvres. Major T. H. J. C. Goodwin, D.S.O., has been

transferred from Devonport to Tidworth Park, Salisbury Plain, as Commandant of the Royal Army Medical Corps Instruction Camp. Major W. H. S. Nickerson, V.C., has been transferred from Rawal Pindi Cantonment to the Station Hospital at Murree. Major L. L. G. Thorpe has taken over Medical Charge at Beaulieu Camp. Major E. W. Siberry has joined the Military Hospital at Potchefstroom on transfer from Pretoria. An exchange on the roster for service abroad has been sanctioned by the Director-General between Major J. Hennessy and Major W. J. P. Adye-Curran. Major P. S. Lelean, specialist sanitary officer, Seventh (Meerut) Division, has arrived home on leave of absence from India. Major A. E. C. Keble has been transferred from the Military Hospital at Gibraltar to Perth. Major A. C. Fox has been transferred from the Military Hospital at the Curragh to hold Medical Charge at Maryborough Health Camp. Major W. G. Beyts, commanding the Station Hospital at Roorkee, in the United Province of Agra and Oudh, has been appointed to hold Civil Medical Charge of Roorkee in addition to his military duties, in succession to Lieutenant-Colonel A. W. Dawson. Major F. Symons has been transferred from Portsea for appointment as Senior Medical Officer, Second Cavalry Brigade, at Divisional Manœuvres.

Captain A. B. Smallman has been selected for appointment as Clinical Pathologist at the Queen Alexandra Military Hospital, London, on the departure of Major J. C. B. Statham. An exchange on the roster for service abroad has been sanctioned by the Director-General between Captain H. W. K. Read and Captain E. Ryan. Captain H. F. Shea has been transferred from the Station Hospital at Ambala Cantonment to Dagshai as Specialist in Operative Surgery. Captain H. W. Long has arrived home tour-expired from Sierra Leone, West Africa. Captain J. du P. Langrishe has been transferred from the Military Hospital at Colaba Cantonment to Kirkee. Captain D. L. Harding has been transferred from Belfast to hold Medical Charge at Finner Camp. Captain J. B. Pascoe has taken up duty at Woolwich as Specialist in Midwifery and Diseases of Women and Children, in succession to Major R. S. Fuhr, D.S.O., whose tenure of the appointment has expired and who reverts to general duty.

Lieutenant C. M. Nichol, lately in charge of the Military Hospital at Weedon, has embarked for a tour of service in Egypt. Under instructions from the Deputy Director of Medical Services, Eighth (Lucknow) Division, Lieutenant P. S. Tomlinson has been transferred from the Station Hospital at Allahabad to Meerut Cantonment. Lieutenant J. R. Yourell has taken up duty at Mandalay. Lieutenant G. H. Dive has embarked for a tour of service in North China. Lieutenant W. L. Webster has been transferred from the Military Hospital at Cork to Tipperary.

### INDIAN MEDICAL SERVICE.

The King has approved of the promotion of the following officers:—Lieutenants to be Captains: Charles Harold Smith, Alan MacDonald Dick, Thomas John Carey Evans, Maurice James Holgate, Trevor Laurence Bomford, Graham Rigby Lynn, Louis Hope Lovat Mackenzie, William Andrew Morton Jack, Duncan Gordon Cooper, David Arthur, William Leonard Forsyth, Edward Humfrey Vere Hodge, Gerald Tyler Burke, Herbert Robert Burnett Gibson, and Mark Alleyne Nicholson (dated July 31st, 1912).

The King has approved of the retirement of Lieutenant-Colonel Clarence Forbes Fearnside (dated Sept. 10th).

Lieutenant-Colonel C. Duer, lately civil surgeon at Simla, has arrived home from India on leave of absence. Lieutenant-Colonel J. Wood, civil surgeon at Rajshahi, has been appointed to officiate as a Civil Surgeon of the First Class during the absence of Major T. Macleod, granted leave. Lieutenant-Colonel H. Fooks has been granted 60 days' privilege leave of absence out of India. Lieutenant-Colonel E. R. W. C. Carroll has relinquished charge of the Dibrugarh Jail to Major A. Leventon.

Major C. M. Matthew, at present holding medical charge of the 92nd Regiment of Punjabis, has been appointed to officiate as Medical Storekeeper to the Government of India at Calcutta, in succession to Major W. D. Hayward. Major F. A. Smith, second-class agency surgeon, Bombay, has been appointed Residency Surgeon at Indore and Administrative Medical Officer in Central India, in succession to Lieutenant-Colonel J. R. Roberts, appointed Surgeon to H.E. the Viceroy and Governor-General of the East Indies. Major G. McI. C. Smith has been granted leave of absence home from India for one year and 17 days.

Captain A. T. Pridham, at present holding medical charge of the First Battalion of the Eighth Gurkha Rifles, has been transferred to the Civil Medical Service for temporary duty in the Jail Department, under the Government of Burma. Captain J. H. Murray has been appointed Superintendent of the Female Jails at Port Blair. Captain R. H. Lee has arrived home on leave of absence from India. Captain N. W. Mackworth has been appointed Civil Surgeon at Purnea, on the transfer of Major J. Weinman to Bengal Presidency. Captain N. M. Wilson has been appointed to the Civil Medical Department under the Punjab Government. Captain D. H. Rai has been appointed to hold charge of the Brigade Bacteriological Research Laboratory at Secunderabad.

### TERRITORIAL FORCE.

Colonel Sir George T. Beatson, K.C.B., M.D., on vacating the appointment of Assistant Director of Medical Services of a Territorial Division, resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform (dated Sept. 11th, 1912).

*Royal Army Medical Corps.*

3rd East Anglian Field Ambulance, Royal Army Medical Corps: Supernumerary Lieutenant William R. S. Roberts is absorbed into the establishment (dated April 27th, 1912).

1st Highland Field Ambulance, Royal Army Medical Corps: Lieutenant Arthur Kellas to be Captain (dated August 2nd, 1912).

### DEATHS IN THE SERVICES.

Surgeon-Major-General Duncan Alexander Campbell Fraser, late Army Medical Staff, died on August 28th at Cheltenham, in his eighty-first year. He was born on Dec. 27th, 1831, and entered the service as assistant surgeon in October, 1853. He became surgeon in May, 1863; surgeon-major in March, 1873; brigade-surgeon in November, 1879; deputy surgeon-general in May, 1881; and surgeon-general in June, 1887. He retired as surgeon-major-general in December, 1891. He was a son of the late Rev. Hugh Fraser, of Ardchattan, Argyllshire, and nephew of Sir Duncan Campbell, Bart. He had held appointments at Netley Hospital and at Malta, and had served in the Ashanti war of 1873–74 and in the Russo-Turkish war of 1877–78. He held the Ashanti medal and the Star of Roumania.

# Correspondence.

"Audi alteram partem."

## CLINTON DENT.

*To the Editor of* THE LANCET.

SIR,—May I add a few words of appreciation of Clinton Dent to your excellent obituary in THE LANCET of Sept. 7th?

I need not say that the loss by his death to St. George's Hospital and School will be most keenly felt. I would especially note how at a consultation his keen intellect would discern the gist of a case, and separate the essentials from the accidentals. In the same way his teaching was most suggestive and original and greatly appreciated by the students; it was also much valued by the nurses, for his observant eye detected the slightest fault or omission, which was corrected in the kindest manner, and often with a little touch of humour, but in a way that was certain to be remembered.

Although not perhaps naturally fluent, his prepared lectures and speeches were quite admirable. I shall never forget his introductory lecture at the opening of the medical session of 1887 on the Significance of Pain, delivered without a note and with the most effective diction. And many of his friends will remember his amusing after-dinner speeches, and his delightful comments upon the photographs which he used sometimes to exhibit by the magic lantern. Moreover, on occasion he would make the most ready and witty criticisms and repartees.

And then he was so versatile and of so wide a mind.

Keen surgeon as he was, and versed in every scientific detail of his art, he yet strongly urged the students to study the mental aspects of disease, a subject in which he himself was greatly interested.

His knowledge of literature was extensive and varied, and his style as a writer was most charming and refined. In the arts, whether painting, sculpture, or music, he was well versed and had excellent judgment. His beautiful Alpine photographs are well known and could only have been produced by a real artist who studied the exact point of view, the precise time of day, and the position of the shadows, which would give the most perfect result. It was the same with his photographic pictures of trees, his studies of drapery, and his portraits, all of which were most artistic. Very valuable also were his numerous photographs of disease, deformities, and morbid specimens.

As a sportsman, too, he was first rate. His remarkable exploits as a mountaineer have been spoken of elsewhere; and probably no one has ever written more attractive accounts of climbing and exploration, or of the natural scenery of the mountains. His account of the search expedition in the Caucasus, where his friends Donkin and Fox had been lost in 1888, was most pathetic. But whether it was cricket, golf, fishing, shooting, or any other active sport, he showed the same energy and skill. Whatever he undertook he did with absolute excellence; and, taken altogether, I do not think one would be wrong in saying that he was the most generally accomplished living man in the profession. He was always hard at work, perhaps too hard, but as he characteristically said, "There should be no torture to the man of healthy mind greater than to be bound hard and fast to a life of ease and sloth, with the ceaseless drip of *ennui* falling ever on his rusting intellect."[1] And what a perfect host he was, taking care always to bring together the right people, and seeing that they understood each other. As a companion and friend there was a subtle charm of which it is difficult to speak: he sometimes seemed shy and reserved, but in sympathetic company his conversation was delightful, and his friendship was a privilege of which everyone who possessed it must sorrowfully feel the loss.

I am, Sir, yours faithfully,

Sept. 9th, 1912. WARRINGTON HAWARD.

## A NATURAL CORRECTION OF MYOPIA.

*To the Editor of* THE LANCET.

SIR,—Facts, both well-known and less well-known, raise the question whether the recti muscles may not, under certain circumstances, diminish the antero-posterior diameter of the lens or eyeball. Viewed in a good drawing the common tendon of these muscles is seen to be inserted in a position, and at an angle, which will apparently cause, upon contraction, some increase in the centrifugal pull of the suspensory ligament. Hence the recti, were they to contract simultaneously, and were the tunics sufficiently yielding, would tend to flatten the lens and to diminish the refraction. For all that is stated by writers, one might imagine that simultaneous contraction never takes place. On consideration, this is seen to be an error. It is optically impossible that one rectus should contract without a like contraction of at least two of the others. When, for example, the internus converges the eye, the tension of the externus is increased, and must be balanced by a continued contraction of the internus if the convergence position is to be maintained. This being so, the superior and inferior must also come into action, and draw with the same force as the others upon the common tendon, otherwise astigmatism will result from the cornea being pulled more strongly in the horizontal than in the vertical meridian. The superior and inferior recti cannot, indeed, by themselves avert the threatened astigmatism, because they do not pull in the right direction. By the intervention, however, of the two oblique muscles a resultant pull is effected, which, being in the vertical plane at right angles to the pull of the externus and internus, coöperates with the latter to distribute the increased tension evenly all round the cornea. In a word, then, physiology concurs with anatomy to indicate that there is during convergence an eccentric movement of the anterior segment of the eye-ball, pulling the suspensory ligament outwards, and minusing the lenticular refraction. Whilst this probably happens to some extent, there is another perhaps more important effect of the combined action of the extra-ocular muscles, the shortening, viz., which, notwithstanding all that has been written to the contrary, they almost certainly bring about in the antero-posterior diameter of the eye-ball.

It is quite true that contraction of the recti may, under certain exceptional conditions, give rise to elongation. With this we are not now concerned. For my part, I believe that it occurs only in serious disease, and is of little importance with regard to the reception of clear images, since, when it takes place, the visual defect, due to retinal and choroidal change, is such as greatly to mask the defective focussing. I am speaking here of the healthy eye with a small or moderate refractive error, and what I suggest is that under such conditions the effect of contraction of the recti can never be to lengthen, but must always be to shorten, the antero-posterior measurement of the globe, so that, in short, convergence, so far from being, as is alleged, the cause of myopia, tends in the great majority of cases to correct it by advancing the retina into the focal position.

If we rid ourselves even temporarily of the elongation theory, evidences as to the real way in which the recti affect the refraction system readily present themselves. If we ask why a myope of 2½ to 5 dioptres, who has come to mature age uncorrected, cannot use glasses for near work, we get from authorities a wide choice of ingenious but far from satisfactory answers. Most frequently it is said that accommodation is by habit so closely associated with convergence that it is impossible to break the connexion and acquire the new associations which the correction demands. Seeing, however, that the myope of 2½ dioptres upwards uses little or no accommodation, scarcely any associations between action of the ciliary muscle and varying degrees of convergence can be supposed to be present in his case. All he has to do on putting on his spectacles is to work his accommodation to its full extent, and we know, if the accepted theory can be even moderately believed, that at the age in question, say 20 to 25, he has plenty of accommodation in reserve to overcome his full correction. Yet there are very many quite youthful myopes, with otherwise excellent vision, who, after prolonged trial, have never been able to read a single line of small print at an ordinary working distance whilst wearing glasses. If, however, we suppose that the effect of the combined action of the recti in convergence is in some measure to tighten the suspensory ligament and flatten the eyeball, and that this action has become so fixed by habit that it cannot be wholly suppressed when the correction is worn, we get at once a fairly satisfactory explanation of the anomaly. The myope is, in fact, already minusing his refraction to such an extent that the addition of concave lenses makes him artificially hyperopic and unable to focus near objects by the utmost efforts of his ciliary accommodation.

On the other hand, if it be said, as it not infrequently is, that the cause of the inability is atrophy of the ciliary muscle from disuse, I would refer, in proof of the contrary, to a very curious circumstance, which at the same time throws some further light on the minusing mechanism. If the life-history of the short-sighted be followed, it will be found that some of them, who never used a correction when young, get into the habit of wearing concave glasses in middle or even advanced age. The meaning of this seems to be that, with increasing years, the minusing power is lost before the ciliary accommodation, so that the myope, who, with the strong ciliary action of youth, could not overcome the combined minusing of his natural and artificial corrections, finds himself able, with the weakened accommodation of age, to overcome the latter by itself. In any case, the fact that a 2½ dioptre myope of 60 will at times wear glasses constantly, except when working, proves that it was not want of accommodation which prevented him using his near correction when young.

That the uncorrected low-degree myope is really making use of his natural correction may frequently be shown by a quite simple experiment. If, while keeping his eyes directed towards an object—say, a printed number—at his working distance he relaxes his convergence, he will at once see two numbers instead of one, and what usually strikes him immediately is that the numbers of

[1] Introductory Lecture, 1887.

the double image are larger than the single number of binocular vision. At first I was under the impression that this apparent enlargement is due to diffusion circles, caused by the number being out of focus. Farther observation made it clear that this is not so, and that the larger images are often quite as well defined as, or even better than, the single one. Evidently the change in the refraction cannot be due to relaxation of the ciliary accommodation, which would diminish rather than enlarge the retinal images. It must result, as it seems to me, from withdrawal of the minusing action of the recti. In the emmetrope and hyperope, owing to intrusion of the ciliary factor, there is no relaxation enlargement, but, on the contrary, a tendency to diminution of the images. In the $2\frac{1}{2}$ dioptre myope the experiment is unaffected, or only slightly affected, by the ciliary accommodation; but in myopia of lower degrees the relaxation enlargement would be smaller owing to removal of an associated plus accommodation. Estimated by such purely subjective tests, the minusing produced by ordinary working convergence would seem to be about 1 dioptre, a small amount in comparision with the total refraction of the eye, yet something.

Whilst the focussing effect of the recti is, under ordinary circumstances, chiefly manifested during strong convergence, it would be a mistake to imagine that it is absent in other positions of the eyes, or that it cannot, up to a certain point, be voluntarily increased or diminished. It is pleasant, and not unreasonable, to believe that it may operate to a considerable extent in the circumstances in which it would be of most use—viz., when the visual axes are parallel—a mode of action of which the phenomena of the myopic headache supply useful illustrations. We are all familiar with the picture of the short-sighted man who spends his time walking, or even running, close up to distant objects in order to see them clearly, to the sad detriment of his interni muscles. The picture, however, is pure romance. The myope has not usually a greater desire to get near far-away things than the emmetrope; nor does he, under ordinary circumstances, converge more than others. Speaking for myself, I very much doubt the existence of the convergence myopic headache. Still, he undoubtedly desires at times to see distant objects clearly—fine scenery, for example, or pictures in an art gallery; and here he is often in difficulty, suffering severely from frontal headache and recovering only after rest. On the common theory which assumes that the myope, whether corrected or uncorrected, exerts hardly any muscular effort in distant vision, absolutely no explanation is forthcoming of the distance headache of myopia. On the supposition, however, of a minusing action of the recti muscles, the thing is perfectly plain. Myopia being nearly always somewhat undercorrected, the myope who tries to see far-away things distinctly, minuses as vigorously as he knows how, and the headache is the sign of the resulting fatigne of the ocular muscles.

Lastly, the greater use made by the short-sighted of the minusing mechanism may in some measure explain their special proneness to disease of the fundus. Having regard to the location, always at the outer side of the disc, both of the myopic crescent and the choroidal atrophy, and remembering that the most vivid light impressions are received at the macula and conveyed by way of the outer side of the papilla, one is led to suspect that disease of the fundus may have some connexion with over-stimulation. We know that mydriatics cause reduced acuity of vision, and may even lead to retinal inflammation. If too much light can produce disease of the macula, it might produce it at the disc, where the nerve fibres turn backwards at a sharp angle, and where partial interruption of strong nervous discharges would be likely to occur and to damage both the nerves and the neighbouring tissues. Two circumstances render the short-sighted more liable than others to suffer from over-stimulation: first, the greater amount of light which enters the eye through their permanently semi-dilated pupil; and, secondly, the more serious interruption of the nervous currents due to the push of the head of the optic nerve against the strongly retracted myopic globe. The former predisposes to disease of the macula; the latter may be the starting-point of the myopic crescent and associated retinal and choroidal atrophy. It would seem, then, as if both myopia and its natural correction, though they have no direct connexion with elongation, have a share in the production of the serious progressive disease which ends in weakening and bulging of the fundus.

I am, Sir, yours faithfully,

Stoke Newington, August 23rd, 1912. I. B. MUIRHEAD.

## ENUCLEATION *v.* TONSILLOTOMY.

*To the Editor of* THE LANCET.

SIR,—Mr. Harold Barwell, in his letter to THE LANCET of Sept. 7th, entitled "Operations for the Removal of Tonsils," confined himself to the general question of guillotine *versus* enucleation.

"Enucleation or no enucleation?" that is the question that so frequently agitates the specialist's mind at the present time. The operation of enucleation of the tonsils is so simple in its proper performance and so certain in good results as to stand pre-eminently first and best, only one condition being essential, that of being well done to ensure success. In the hands of an experienced and efficient operator most beneficial results will always follow this operation.

No one who has given the subject sufficient attention will dispute that in the case of the enlarged and diseased tonsil it is always best to remove it entirely instead of slicing parts away or merely punching portions out, leaving the remains to hypertrophy again. The tonsil that must be enucleated, if it is to be completely removed at all, is the one embedded below and behind the pillars of the fauces and attached all along its outer border from apex to base. Such a tonsil cannot be removed entirely by the guillotine, and when this is attempted so much is left that a second operation is imperative. The only tonsil that can with certainty be removed entirely by the guillotine is the pedunculated or semi-pedunculated one, and for this type of tonsil tonsillotomy is still the best, the safest, and the quickest procedure.

Enucleation of the tonsil is by far the best operation, too, in adults where the tonsil is hypertrophied, follicular, and consequently septic. Many cases of chronic dyspepsia have their origin in such tonsils, and physicians would do well to see to it that such patients are examined and treated for these conditions. I have cured many adults of chronic pharyngeal trouble accompanied with chronic and intractable dyspepsia by radically removing the source of their trouble by performing enucleation of the tonsils. I hold that all enlarged tonsils should be radically removed, especially if follicular, and this applies to both children and adults. I believe that many cases, not only of dyspepsia and gastritis, but even appendicitis, are to be traced to the presence of such tonsils, and, as I pointed out in my paper on nasal catarrh in the *Practitioner* last March, nasal catarrh is often kept up by sepsis spreading from the same source.

I am, Sir, yours faithfully,

Harley-street, W., Sept. 9th, 1912. WM. STUART-LOW

## EARLY FUNCTIONAL TREATMENT IN CONTUSIONS AND SPRAINS OF THE BACK.

*To the Editor of* THE LANCET.

SIR,—It is, indeed, refreshing to find in a *confrère* of the eminence of Dr. Frank Shufflebotham an advocate of the scientific treatment of a class of sufferers lamentably neglected by the profession as a whole. It is an undeniable fact that any man, labourer or millionaire, who has the misfortune to strain or rick his back is unusually fortunate if his accident elicits an interest proportionate to its gravity, and still more so if the treatment accorded is that best calculated to restore him rapidly to health and strength.

I am, accordingly, reluctant to criticise the address published in THE LANCET of August 17th, but am constrained to do so by finding that, while the name of Lucas-Championnière is invoked, it would appear that misapprehension of his teaching has been attended, as too often before, by serious deviation from his instructions. I venture to say that had he delivered the address in question he would emphatically have premised that, while in massage alone is found the appropriate treatment, only one form of massage—his glucokinesis—is permissible, and that to put the patient into the hands of the average exponent of the art of massage without special instruction as to the treatment to be administered would be, unless the case were

exceptional, to subject him to much suffering and possibly to the danger of an aggravation of his trouble. The only form of massage that should ever be administered in the treatment of a recent injury, whether fracture or sprain, is the smooth, gentle, rhythmical stroking of the surface obtained by movements which are "merely a caress" and "almost resemble a mesmeric pass"; such massage, in fact, as can be performed to perfection, after a few minutes' instruction, in a miner's cottage by the miner's wife as readily, and at least as effectively, as by those "who are highly trained and experienced" after the common fashion. The hand trained to glucokinesis may naturally be expected to give speedier relief and cure than the hand untrained, yet the raw beginner may do more for the patient than many a masseur proficient in the exercise of that ponderous and forcible process which in this country now stands, in general, for massage.

Dr. Shufflebotham says that "a preliminary stage of rest is essential. ..... But after a day or two massage must be started." Lucas-Championnière's teaching is that massage should begin at once, and that delay, even for a day or two, is most harmful. By means of glucokinesis an *anesthésie de massage* can be established in from 20 to 30 minutes, however severe may be the sprain, sufficient to permit the administration of a dose of mobilisation, if only to the toes, ankles, and perhaps knees. Such a dose, however small, should be administered after every massage treatment, including the first, even though that be given within a few minutes of the receipt of injury, whether the injured tissues are nerves, muscles, ligaments, tendons, or joints.

Let me conclude with a word as to neurasthenia as a sequel to injury to the back. Those of us who have followed the French master in detail of practice know well the wonderfully curative effect of his glucokinesis on neurasthenia even in cases of old standing. If by its means it is possible to cure a case of the most severe type and of ten years' persistence, as has recently been my good fortune, surely we are called upon to enlist it as a prophylactic in all cases of injury in which neurasthenia is a common sequel, and more especially, therefore, in all cases of injury to the back.

I am, Sir, yours faithfully,

Royal-crescent, W., Sept. 9th, 1912. JAMES B. MENNELL.

CORRECTIONS.—We have received a letter from Mr. William Hill, house superintendent and cashier of the Glasgow Maternity and Women's Hospital, asking us to correct a statement in the Students' Number of THE LANCET. Mr. Hill informs us that there are no printed regulations giving the particulars of the fees at his institution, but that, since Jan. 1st last, the hospital fee for students entitled to attend the hospital at any time during his or her undergraduate career has been 5 guineas, and not 3 guineas, as appears in our columns.

# THE PLAGUE AND THE MARSEILLES PORT AUTHORITIES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

PLAGUE and cholera are not only in the Near East, but have travelled westward, plague being reported from Algeria and Trieste and cholera in Hungary and doubtless nearer still. Only a few cases of plague occurred in Algeria, but it was pneumonic plague and close to the port of Algiers, which is in almost daily communication with Marseilles. The journey from port to port only lasts 36 hours, so there is not much time for the observation of the passengers. Under such circumstances the precautions taken at Marseilles against plague are a matter of more than usual interest. These have already been described at considerable length, but this was some years ago.[1] The quarantine station at the island of Frioul, which faces the port of Marseilles, had then been remodelled. More effective methods of disinfecting luggage, clothes, passengers, and merchandise were introduced. The buildings for housing detained passengers were repaired and the services in all details improved. Then a systematic method for dealing with rats on board ship and in the docks was devised. After a lapse of ten years, however, it will readily be understood that still further improvements and alterations have been effected.

[1] See THE LANCET, May 24th (p. 1498) and 31st (p. 1563).

*Sanitary Tax on Ships.*

Passing through Marseilles a few weeks ago I had the good fortune to meet Dr. Torel, who is director of the port sanitary authority, and learnt from him details concerning recent developments. First among such details, for it is of fundamental importance, stands forth the fact that there is an augmentation of financial resources. A sanitary tax is now imposed on vessels that enter the port. It is a light tax, for it varies from only one halfpenny to three-halfpence per ton of carrying capacity. Also passengers detained at Frioul pay rent of 5*d.* per day third class, 10*d.* second, and 1*s.* 8*d.* first class. As this does not include food, washing, and the cost of disinfecting, a little profit is made here sometimes. Altogether the sanitary tax produced in round figures £16,000 in 1903 and £24,000 in 1909, and to-day the revenue from this source is estimated at £28,000 to £30,000 per annum. This is of great help in meeting the heavy cost of applying rigorously the precautions prescribed by the law. But then the traffic at Marseilles is equal to that of all the other French ports taken together. The average daily entries must now be more than 30 steamships and six sailing ships, for that is an estimate made three years ago. It is by sea rather than by land that the majority of passengers arrive at Marseilles. On the other hand, it is by train that they generally leave Marseilles, bound for different countries, as they arrive from various parts of the world. Thus, if efficient precautions are neglected, Marseilles could well become an important centre for the dissemination of epidemic disease throughout Europe.

*Neglected Sanitation on Board.*

This danger is the greater that, in spite of all that has been said and written, sanitation at sea is still sadly neglected. Dr. Torel spoke of this with some bitterness. The French port medical authorities have to inspect the medicine-chests on board ships, and he protested that this should be the business of a druggist. Medical men are not allowed to dispense in France unless it be in mountainous and isolated districts where there is no dispensing chemist within reach; their knowledge, therefore, of medicine-chests is theoretical rather than practical. The medical inspectors of ships would be much better employed if they examined the ships instead of the medicine-chests. There is the new Merchant Marine Law of 1907, and the state of the machinery and the seaworthiness of ships is the object of many inspections, but the sailors' or the firemen's quarters and the stewards' "glory hole" are still too often neglected. The trouble in France is that the military element dominates, and the authorities responsible for the war navy do not understand the needs of the mercantile marine. Much still remains to be done on ships to render them safer means for conveying human beings; and on the best class of ships much improvement has been effected, though not on all.

*Divided Authority.*

There are undoubtedly some good laws, but the application of them is faulty; many who are charged with this duty do not understand what is the object of the law. The law of 1907 insists that in all new ships much better accommodation shall be given to the crew; they must have more space and better washing and sanitary provision. As new ships are launched with all these conditions applied, the old boats find that competition compels them to make alterations so as to be not too far behind the times. In regard to the danger of plague importation, the main legal difficulty is the division of authority. Thus, at Marseilles, there is the ship rat and the land rat, and there is the port sanitary authority and the town or municipal authority. But the rat is not in the least concerned about these authorities, and will go for food without discriminating between municipal and State control. The port sanitary authority is appointed by the Minister of the Interior, has nothing to do with local administrative bodies, and is a national or State institution. On shore there is the Departmental Council of Hygiene, which is under the Prefect, and is therefore also a State institution, but it is not a local body, for it represents an entire county or department. The purely local sanitary authority is the Bureau d'Hygiène, whose organisation depends on the mayor and the municipal council. At Marseilles it so happens that the port sanitary authority and the Bureau d'Hygiène work harmoniously together. This, however, may not always be the case, and there is no provision in the law to meet the possibility of a feud arising between them.

*The Marseilles Rat Brigades.*

At Marseilles there is a land-rat brigade and a ship-rat brigade. If these brigades were to quarrel with one another the safety of Europe would be seriously imperilled, and the Marseillais has a hot temper. It is true there is also a fox terrier equal to any member of either brigade, who has been known to kill fifty rats a day, and no factious quarrel would divert him from his chief sport. But even this excellent animal could not alone guard Europe. The fact remains that the port sanitary authority may kill as many rats on board ships as it chooses, but if a ship rat swims ashore and clambers on to the quay then the land-rat brigade must take up the chase, but only if the Bureau d'Hygiène and the municipality in their wisdom think fit to authorise such a proceeding and if they have funds available for the purpose. It will easily be understood that before all these rights and reservations can be made to work harmoniously the ship rats would have time to escape and infect the land rats. Fortunately this question was raised when M. Clemenceau was both Premier and Minister of the Interior. In his earlier days M. Clemenceau took his degree of doctor of medicine, and therefore did not hesitate, when later he became supreme sanitary authority, to send out a circular ordering the suppression of the rats at Marseilles, and appointed Dr. Torel as sole director of that service.

*The Rat from Ship to Factory.*

An agreement was forthwith drawn up. The municipality of Marseilles would appoint and pay for a rat brigade of five men to do the work on shore. Dr. Torel would appoint and pay for another rat brigade of five men to do all the work on board ships, but both brigades would be under his supreme command. Thus, and as a consequence of M. Clemenceau's wise forethought and decision, any chance of conflict between the two authorities has been avoided. When a ship arrives from a port where there is plague, rats are taken not merely from the ship; they are also taken from the public or private dock, where the goods brought by that ship are landed. A still further precaution has been applied. The goods from plague-stricken countries are followed to the mill or factory where they are utilised. Here also rats are captured to see if they have been infected by these goods. It is no easy matter, however, to capture these rats in such a manner as to prevent mischief. The method generally employed is to have ready a supply of rags saturated with a mercurial solution. The rats are wrapped round with these rags so that the fleas may be destroyed and unable to escape. In going to factories, workshops, warehouses, &c., the inspector is armed with a letter from the mayor, and if he is not admitted at once he is empowered to summon the police and employ force. In this way three samples of rats are taken—from the ship, from the docks, and from the factory. The fleas on these rats are identified and examined. The *ceratophyllus* flea keeps to the rat if possible, but in moments of stress and danger and for want of anything better may content itself by jumping on a man. At the Marseilles laboratory from 40 to 80 rats are examined every day. These are both land and ship rats. Three bacteriologists are employed for this purpose. It is easy and quick work to examine the rats, and there is no difficulty in recognising whether they have plague or are free from this disease, but the fleas are much more troublesome. Every Monday a report, giving the result of the examination of all the rats, has to be forwarded to the Minister of the Interior in Paris.

*The Rat's Preference for Human Flesh.*

After seeing Dr. Torel I made an opportunity to meet a member of the Marseilles rat brigade. He had been in the service for now five years, and his work was to rid Marseilles, but more particularly the sewers, of rats. Dams were made in the sewers to catch the rats that swam with the current. When they reached the dam they were caught or drowned. On removing the dam the dead bodies floated out to the open sea at the main sewer outfall. This was easy and simple work.

There still remained, however, some of the badly built sewers that existed before the general drainage scheme was devised and applied. Theoretically these sewers are supposed to be no longer in use, but water still reaches them and flows into the old port. In many quarters, where the houses date back some centuries, conditions still prevail that would supply all that is needed to foster a bad epidemic if the specific infection was introduced. These old houses have mysterious cellars. In one of them a poor mendicant, who had seen better days, was allowed to find shelter. He would have been better off if exposed without shelter in the open street. Too feeble to defend himself, this poor old man was attacked by rats and partly eaten. The member of the rat brigade to whom I was speaking discovered the body, and others subsequently confirmed his story. The viscera had been entirely eaten away. Before removing the body an experiment was made. Some uncooked fresh meat was hung up and other tempting articles of food, but the rats would not touch these so long as there was human flesh available. The rat-catcher had himself often been attacked, and he showed me numerous scars on his hand and one very bad scar on the back of his neck. In the port, however, they are not content with bare hands, but have 14 different apparatus made by four rival manufacturers for killing rats on board ships. But a ship can be fumigated, and this is not always possible in a sewer.

Altogether it will be seen that a sharp watch is kept at Marseilles, and though hundreds of ships have reached that port from plague-afflicted countries, the disease has so far been successfully met and its introduction prevented in recent years. The authorities deserve great credit for the thoroughness of their work.

## MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

*Adoption of Notification of Births Act.*

THE Manchester City Council, by a majority vote, adopted the following recommendation of the sanitary committee:—

That this council, being the local authority for the city within the meaning of the Notification of Births Act, 1907, do hereby, under and in pursuance of the powers conferred upon them by the said Act, adopt the Act in the city.

It appears that the joint committee of the divisions of the British Medical Association circularised the members of the council on the subject, and in the circular gave some reasons why the medical profession is resolved to offer the most strenuous opposition to the proposal. Apart from the serious breach of professional confidence for a medical man to notify births which he attends, the circular states that the sanctity of the confidential relationship between patient and doctor, most particularly in matters relating to sex, should be held inviolable, and that no Act of Parliament could possibly justify the breach of such relationship. Except in cases of extreme necessity, as for the detection of crime, the committee strongly objects to medical men being compelled to lay open the private affairs of their patients to officials. Moreover, the duty of notification is one which, if required at all, ought to be imposed upon the parents and not upon the medical attendant. It is altogether unjust that the State or the municipality should impose on medical men this or any other duty without a fee. In the present case the offer of a fee would by no means remove the objections already stated. It appears that the council by a small majority adopted the Notification of Births Act as a means for the prevention of the great waste of infant life, which, despite the general improvement in the city's health and the decrease of the general death-rate, has not appreciably altered in the last ten years. 39 per cent. of the deaths of infants occur within a month from the birth. It was contended that immediate notification is necessary to enable this destruction to be counteracted, more especially as in the poorer districts the great majority of births are not attended by a doctor, and that the trouble of filling up a form of notification is small as compared to the saving of life which may be effected by the women health visitors instructing mothers in the rearing of their children.

*Compulsory Detention of a Consumptive Patient: First Case under Powers of a New Act at St. Helens.*

At St. Helens a consumptive who refused to go into hospital was ordered to undergo compulsory detention for three months. The sufferer lived with his wife and two children in a house where there were only two bedrooms and

two living rooms, and there were four other adults living in the house. The patient having declined to go into a consumptive hospital by persuasion, the compulsory clause for detention was put in force. By the St. Helens Act of 1911 the magistrates have power to deal with such cases if the medical officer certifies in writing that any person is suffering from pulmonary consumption and is in an infectious state, and that the lodging or accommodation with which such person is provided is such that proper precautions to prevent the spread of the infection cannot be taken, or that such precautions are not being taken. The medical officer might make application to a court of summary jurisdiction, and such court upon proof of such allegation might make an order for the removal of such person to a suitable hospital or place for the reception of the sick provided within the borough for the detention and maintenance of such person for a period not exceeding three months.

Sept. 10th.

## BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

### *The University.*

THE University has suffered a heavy loss by the death of its Vice-Chancellor, Alderman Beale, who had held office since the foundation of the University. Alderman Beale's life was devoted to public service, and he was recognised as one of the strongest members of the city council. Owing to the illness of the Chancellor, the Right Hon. Joseph Chamberlain, the Vice-Chancellor presided at most of the degree congregations and at the public receptions such as that given to the British Medical Association last year. As a generous donor and one whose great ability and diplomatic skill guided the University through the difficult years of its early growth he will be long remembered. It has been decided, as a mark of respect to his memory, to abandon the usual conversazione which is held at the beginning of October to inaugurate the opening of the winter session of the medical faculty.

### *Sanatorium Benefit.*

The first patients to receive sanatorium benefit under the Insurance Act were admitted into the municipal sanatorium a fortnight ago and are now under treatment. The local scheme under which this treatment is being given has not yet been submitted to the Council of the British Medical Association for its approval. The position thus created is under consideration by the Provisional Medical Committee, who call attention to the fact that until the scheme has been approved no loyal member of the Association can undertake any work in connexion with sanatorium benefit.

Sept. 10th.

## WALES.

(FROM OUR OWN CORRESPONDENT.)

### *Housing in Wales.*

A CONSIDERABLE amount of activity is being displayed in both North and South Wales in connexion with the improvement of the houses of the working classes. Although in some districts, notably in Merthyr Tydfil, the sanitary authorities have shown commendable zeal in carrying out building schemes, in a very large number either nothing at all has been done or the consideration of such schemes as have been put forward has been postponed time after time. The result has been that organisations have sprung up with the avowed object of stimulating the authorities to carry out their statutory obligations, or, failing success in this effort, to carry out building enterprises independently of the authorities. One of these is the South Wales Workmen's National Housing Council, which took the opportunity of the meeting of trades unionists at Newport to hold a conference in that town on August 30th. There were present at the conference nearly 300 delegates from 48 towns and villages. A resolution was unanimously carried deploring the insanitary conditions and dangerous overcrowding prevailing in many industrial districts, and pledging the bodies represented to bring to the notice of the sanitary authorities concerned, and if necessary to the Local Government Board, any cases regarded as dangerous to the public health, so that speedy and drastic action might be taken for the repairing, closing, or demolition of houses, and in case of a lack of dwellings for the extensive building of cottages under the provisions of the Housing of the Working Classes Acts. The reports of medical officers of health in all parts of South Wales are so constantly referring to unsatisfactory housing conditions that there would appear to be no lack of material for reference to either the local or central authorities. One member of the conference stated that at Ynysybwl, where among a population of 5000 persons as many as 500 families were living in apartments, the urban district council could not be prevailed on to take any steps to improve the existing conditions. A coöperative building society had been formed, and 50 houses were in the first instance about to be erected by it.

### *Infant Mortality in the Rhondda Valleys.*

The rate of infantile mortality in the Rhondda valleys has always been high. In 1901 it was as high as 222 per 1000 births, and although there was a very distinct fall in 1909 (130) and in 1910 (137), it rose again in 1911 to 164 per 1000. Among the recognised causes of a high rate of mortality among young children are poverty and the presence of insanitary privy middens, but neither of these conditions is to be found in the Rhondda. There is no such poverty as is found in some of the midland and northern towns. The entire district is on the water-carriage system, and fixed ashpits are non-existent, the household refuse being removed daily. Some other causes of the excessive mortality must therefore be sought for. In his recently issued annual report, the medical officer of health, Dr. J. D. Jenkins, expresses the opinion that they are to be found in the early age at which women enter into the married state, their ignorance of the principles of child-rearing, their carelessness and lack of cleanliness in the storage and preparation of food, and, he also adds, the high birth-rate in the district. The last-mentioned cause, he is careful to explain, may not be quite so obvious in its operation as the others, but he points out that families are as a rule large, and that in married women pregnancy follows pregnancy with little interval, so that obviously in these cases the mothers have not the time or the physical ability to give the necessary amount of attention to their infants. With a view to effecting some reduction in the excessive mortality the district council adopted the Notification of Births Act in 1909, and in connexion with its administration appointed two health visitors. As this number was necessarily quite inadequate to deal with an industrial population approaching 150,000 persons, a selection of districts was made, those previously possessing the highest mortality rates among infants over a series of years being chosen to receive the attention of the health visitors. So far as 1911 was concerned, the rate in these selected districts was lower than that recorded in the remainder of the urban district by 10 per 1000 births, but even so the rate in one health visitor's district was 168 per 1000 births, and in the other 152 per 1000, compared with a rate of 140 per 1000 in the 77 great towns of England and Wales, and with 130 per 1000 in the whole country. The work of the health visitors, however, has been considered sufficiently satisfactory to warrant the appointment of four additional officers, who will carry out such work as is being done by those first appointed, and will also act as school nurses. As the local education authority, the district council is also employing other means of lessening the ignorance of the principles of child-rearing among the women of the district. In some of the newer schools rooms are being set apart for instructing the elder girls in household management in a practical manner, and it is proposed to include instruction in the management and feeding of infants.

### *Porthcawl Rest.*

In spite of the large and increasing population—that of the county of Glamorgan alone is considerably over a million—there is in South Wales only one convalescent home, that known as Porthcawl Rest. The institution was started 50 years ago in three small cottages by the late Dr. James Lewis, a colliery surgeon of Maesteg, for the colliers of that district. In subsequent years extensions were made, first of all to accommodate 30 patients, and later, three years ago, when an expenditure of £11,000 was made and the accommodation was brought up to 190 beds. In the

first year 33 patients were sent to the Rest; last year the number was nearly 2000. All those who are received are convalescents, and they are expected to take a share in the working of the institution, no doubt accounting thus for the economical working expenses, which amounted in 1911 to as little as 12*s.* 3*d.* per week per head, including administrative and special expenses.

Sept. 9th.

## BRISTOL AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

### *Bristol General Hospital.*

AT the half-yearly meeting of this institution Mr. Joseph Storrs Fry, the president, after a brief notice of the past six months' work and finance, alluded to the extension scheme which the committee had in progress. He said that the sum collected, £44,400, was still £600 short of the estimated expenditure. The committee, after careful consideration of the whole matter, had decided to proceed with the extension, in the belief that, whatever the influence of the Insurance Act on the administration of hospitals proved to be in the future, it would not do away with the necessity for the dental, maternity, and in-patient treatment which the new wing is designed to accommodate. On these grounds he appealed to the public for continued support; and Mr. Mervyn King, who followed, endorsed this appeal, especially in so far as the working-class contributions are concerned. He referred to a circular letter sent out by Mr. Herbert M. Baker, chairman of the hospital committee, to the working men and women of Bristol. In this letter Mr. Baker points out that the Insurance Act does not provide for the treatment of serious disease; that indoor hospital provision is therefore still a necessity; and that the working classes will be well advised if they continue to subscribe to the hospitals as they have done hitherto. Mr. Baker quotes the action of one large Bristol firm, the Wagon and Carriage Company, as an example. The employees of this firm have publicly stated their intention of continuing their subscriptions to the city hospitals as heretofore, and without any modification in consequence of the Insurance Act.

### *The Salaries of Workhouse Medical Officers.*

A few months ago the Bristol board of guardians advertised for an assistant medical officer to the Eastville workhouse at a salary of £150 per annum, with rooms and rations. Two ladies were the only applicants for the post, and the one who was elected has recently resigned the appointment. At the meeting of the guardians held on Sept. 6th it was decided to advertise the vacancy on the same terms as before. It is much to be regretted that the Bristol board of guardians should offer such an inadequate salary for an assistant medical officer to a large workhouse.

### *Cottages in Rural Somerset.*

At the last meeting of the Wells (Somerset) rural district council a report was presented in reference to the condition of labourers' cottages at Meare. It was stated that the conditions under which the poor lived were truly appalling, and the vicar of the parish wrote to the council that many of the houses were not fit to house a dog. The chairman remarked he had seen pigsties far superior to any of the cottages at Meare.

### *School Medical Inspector for Exeter.*

At the last meeting of the Devon Education Committee it was stated that 36 applications had been received for the appointment of school medical inspector for Exeter, vacant by the resignation of Mr. L. Tosswill. It was reported that several lady practitioners had applied for the post, and a discussion arose as to whether their applications should be considered. It was eventually decided, on the casting vote of the chairman (Lord Clifford of Chudleigh), to appoint a medical man.

### *The Devon County Council and the National Insurance Act.*

To carry out the provisions of the National Insurance Act in regard to the treatment of tuberculosis, the general purposes committee will recommend to the next meeting of the Devon county council that a sanatorium be provided at a capital cost of £13,000, and three dispensaries for all persons, whether insured or otherwise, at an annual cost of £3690.

### *Insanitary Dwellings and Heart Disease.*

At the last meeting of the St. Austell (Cornwall) rural district council the medical officer of health (Dr. Nankivell) reported upon the insanitary houses in the district. He stated that damp houses and heart disease could be associated. Dr. Nankivell added that up to the present date 26 deaths had occurred from heart disease in the district this year. The medical officer of health also stated that several insanitary houses had been made healthy, and, in conclusion, made some suggestions in reference to the building of houses.

Sept. 10th.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

### *Overcrowding in Glasgow.*

THE chief sanitary inspector of Glasgow has disclosed some interesting facts with reference to the evils of overcrowding in the city. He takes the standard of 50 people upon each acre as permitting of a really healthful existence, and he states that he found in only nine wards out of 26 did that condition prevail. In the other 17 wards—beginning with Anderston, containing 52·58 per acre, up to Cowcaddens, with 214·5 on each acre—the city is overcrowded and stands much in need of a well-thought-out and orderly process of expansion of the population over virgin soil. In the most overcrowded ward, Cowcaddens, there are as many as 45 houses per acre, and if this condition of affairs remains unaltered it is inevitable that the city must look forward to high death-rates and an abnormal amount of preventable disease.

### *Treatment of Phthisis in Greenock.*

The medical officer of health for Greenock has issued a report to the corporation on the question of the treatment of tuberculosis in the town with special reference to the Parliamentary grant for sanatorium purposes. He states that the immediate requirements of the district are 30 beds. In a suggested scheme of administrative action the medical officer states that he has been in consultation with the medical officers of health of the county of Renfrew and of Paisley, and they had agreed to recommend their respective authorities to consider the question of combining in the erection of a county sanatorium, a special department of the sanatorium, if recommended, to be set apart as a residential school for children. It was suggested that the local authority in Greenock should join with the school board in providing an open-air school, the local authority contributing to the cost of the necessary buildings, which would be of an inexpensive type, and the school board staffing and maintaining it. It is expected that the annual charge to the community for carrying through the proposed scheme will be £1887.

### *The Chair of Midwifery in Aberdeen University.*

In the place of Professor Wm. Stephenson, who has resigned, Dr. R. G. McKerron has been appointed to the chair of midwifery in the University of Aberdeen. Dr. McKerron has had a long connexion with the city and University. He graduated in arts in Aberdeen with honours in classics, and obtained in 1888 the degree of M.B. and C.M., with honours as well as many prizes. In 1898 he was awarded the degree of M.D. with honours, and was in 1890 appointed the first house surgeon and physician to the Royal Hospital for Sick Children, Aberdeen. After a short period of practice in Dingwall, in 1892 he was elected physician to the Aberdeen General Dispensary, and three years afterwards was appointed obstetric physician to the outdoor department of the Maternity Hospital, public vaccinator and lecturer on vaccination in the University, which appointments he held for 12 years. During the year 1891 he was assistant to the professor of physiology in the University, and in the following year was appointed assistant professor of midwifery.

Sept. 10th

# IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*The Administration of Sanatorium Benefits in Ireland.*

SOME of the Irish county councils are adopting schemes and appointing tuberculosis officers, others are refusing until they have a guarantee from the Treasury to the effect that, provided any council (county or borough) will arrange for the sanatorium benefits for the dependents of insured persons, the Treasury will pay half this expenditure over and above what the councils may receive from the Insurance Committees. In Ireland county councils were so badly treated by the Treasury in respect of asylum and education grants that they are "twice shy" of accepting any promise of financial aid unless the Treasury are pinned down by a Parliamentary resolution. The view of the Local Government Board appears to be that the county and borough councils can face the tuberculosis problem on the lines of the Astor Committee recommendations, by acting under the Tuberculosis (Ireland) Prevention Act, passed a few years ago, thus providing for all consumptives, insured or not. But under this Act the councils could only strike a rate of 1*d.*, or, with the leave of the Local Government Board, 2*d.* in the £, either of which sums would bring in a yearly source of revenue inadequate to cope with the number of medical charges. Owing to the fact that in Ireland we have no county medical officers of health, no estimate can be made of the number of consumptives; indeed, it is ludicrous to hear the utterly different guesses made in any county by the three authorities—the local health officials, the Local Government Board, and the Insurance Act Commissioners. In this state of affairs county and borough councils are reluctant to enter on provisional arrangements which may lead them into serious and permanent financial obligations.

*School of Physic in Ireland: Trinity College Post-Graduate Classes.*

It is now several years since the Medical School of Trinity College organised the first post-graduate course in Ireland. This year the autumn course will begin on Sept. 23rd and end on Oct. 12th. The duration of the course is only three weeks, but judging from the time-table at the end of the syllabus there is a large amount of work crowded into that time. The course is primarily intended for the general practitioner, and affords him an opportunity of seeing many modern methods of diagnosis and treatment. The course is not confined to graduates of Trinity College, but is open to all registered practitioners. Through the kindness of the board arrangements have been made by which members of the course may reside in college and dine on commons in the college hall. A detailed syllabus can be had on application to the honorary secretary, 27, Lower Fitzwilliam-street, Dublin.

*Insanity in Ireland.*

On Jan. 1st, 1912, the total number of insane in Ireland was 12,868 males and 11,787 females, as compared with 12,704 and 11,690 respectively on the corresponding date of last year. In the annual report of the inspector of lunatics for 1911 some strange points, very difficult to explain, are brought out as to the distribution of insanity in Ireland. Taking as a criterion the number of insane belonging to each county who were resident in public asylums (other than criminal) and workhouses about the beginning of 1911, the number for the whole of Ireland was equal to 5·3 per 1000 of the present population; but, oddly, the distribution is very unequal, varying from 2·6 per 1000 in co. Down to 9·2 in Waterford. No less than 21 counties are equal to, or above, the average, the eight highest being in order Waterford, Kilkenny, West Meath, Monaghan, Clare, Carlow, Meath, and Tipperary; while the eight lowest are Down, Derry, Kerry, Fermanagh, Tyrone, Mayo, Antrim, and Donegal. It is quite impossible to explain the large incidence of insanity in Waterford, but on the whole lunacy tends to prevail in agricultural and rural districts, to which category belong the eight which head the list; while, on the other hand, Antrim (containing the greater part of Belfast) is well below the average, with 4·7 per 1000; Down (with the remainder of Belfast) is lowest of all; and Armagh, Tyrone, and Derry, with their smaller manufacturing towns, stand near the bottom. Dublin comes about the middle of the list, while Cork and Limerick stand high. The order of the four provinces is: Munster 6·1 per 1000, Leinster 6·0, Connaught 5·2, and Ulster 4·2. There is no appreciable connexion between the distribution of insanity and the density of population, nor is there any marked degree of relationship between emigration and insanity rates, and in Ireland alcohol seems to possess comparatively small importance as a cause of insanity; but it is found that a considerable degree of correspondence exists in the distribution of poverty and insanity. Thus Waterford, with its high rate of insane in institutions, has also the second highest rate of pauperism, and all but two of the counties which stand over the average in pauperism were also over the average in insanity.

*Food as Part of Sanatorium Benefit.*

For several weeks past the Dublin County Borough Insurance Committee has sanctioned supplies of milk, eggs, and other food, in certain cases, as part of the sanatorium benefit to patients receiving domiciliary treatment. This was regarded as coming properly under the head of the "treatment otherwise than in sanatoria or other institutions" authorised by the Act. The Insurance Commissioners, however, take a different view. One of their medical inspectors, Dr. O'Donoghue, attended a recent meeting of the Dublin Insurance Committee, and declared that in the opinion of the Commissioners the committee could not supply any commodities other than drugs or medicines to patients. The committee declined to accept this view, and is now awaiting a definite decision from the Insurance Commissioners.

*The Women's National Health Association and the Profession.*

Lady Aberdeen, together with some members of the committee of the Women's National Health Association, recently had a conference with the sanatorium subcommittee of the conjoint committee representative of the medical profession in Ireland. Several points in dispute between the association and the profession were discussed, and after the representatives of the Women's National Health Association had withdrawn, the following resolution was passed by the sanatorium subcommittee:—

That the sanatorium subcommittee of the Conjoint Committee desire to thank Her Excellency the Countess of Aberdeen for her kindness in attending its meeting of to-day and explaining the points in discussion between them and the Women's National Health Association, concerning which there had been so much controversy. They recognise with pleasure the evident desire of the President and officials of the W.N.H.A. for hearty coöperation with the profession, and they consider that Her Excellency, in making a suggestion that this committee should appoint some of its members to advise the W.N.H.A., has shown the way to an arrangement which would ensure satisfactory and efficient working of the scheme of the Women's National Health Association.

If the work of the Association is to be carried on in accordance with the views of the profession the medical men who are nominated to sit on the advisory committee must see that their functions are more than formal.

*The Belfast Medical Profession and Friendly Societies.*

As a result of very careful and prolonged consideration a copy of the following letter has been sent by the Belfast Local Medical Committee to the secretaries of all the various Belfast Friendly Societies, most of whom have been approved by the Irish Insurance Commissioners, and it has also been published in the newspaper press:—

To the Secretary of ———

Owing to the introduction of the National Insurance Act, the relations between the medical profession and the employed classes must in the future be greatly changed.

It will be to the advantage of all insured persons to become members of approved societies; and as the provision of medical benefits outside of the Act will not only greatly facilitate economy in administration, but will be an inducement for new members to join, the present bounds of contract practice will undoubtedly be widely extended.

Hitherto the great objections to contract medical practice have been—(*a*) from the point of view of the members of societies, absence of free choice of doctor, and (*b*) as relating to the medical profession, inadequate remuneration for proper attendance.

At a large meeting of the medical profession, representative of the whole of Ireland, recently held in Dublin, these points were very fully considered, and the following conditions were approved as the proper basis of contract medical practice, which it was believed would be satisfactory alike to doctor and patient:—

1. Free choice of doctor, subject to the doctor's consent to act.
2. An income limit of £2 per week for those eligible for medical benefits.
3. A minimum rate of remuneration of 8*s.* 6*d.* per head per annum, exclusive of medicine and appliances.

These conditions have been carefully considered and accepted by the

Local Medical Committee, a body elected by and representative of the entire medical profession in Belfast. We therefore are authorised to give you notice that all arrangements for contract practice must in future be made in accordance with these conditions, *and through the Local Medical Committee only*. Existing arrangements with established societies will remain in force until Dec. 31st, 1912, but will not be renewed after that date.

It is earnestly desired that the good relationship which has existed hitherto between the medical practitioners and the officers and members of the different societies should continue, and the Local Medical Committee will be pleased to give assistance in making any new arrangements that may be found necessary.

This letter was signed by 61 medical men and women constituting the Belfast Local Medical Committee, and in consequence the following declaration has been made and signed as under:—

We, the undersigned registered medical practitioners, practising in the county borough of Belfast, have this day fully approved of the terms of the letter drafted by the Local Medical Committee, and in accordance with the appended pledge we hereby instruct our Local Medical Committee to issue this letter to all Friendly Societies and others concerned.

*The Pledge.*

"I, the undersigned, hereby promise that I will not individually enter into any arrangements with an Insurance Committee or an Approved Society, or other person or persons, under the National Insurance Act, or under any system or society worked independently of the Act, that I will only act through the Local Medical Committee of the district in which I live and practise, and then only if the conditions are satisfactory to and in accordance with the declared policy of the Irish Medical Association and British Medical Association."

The pledge has been signed by 218 practitioners in Belfast.

*Down District Asylum.*

At a meeting of the committee of management of the Down district asylum, held on August 17th, a resolution was passed expressive of the appreciation of the services rendered by Mr. M. J. Nolan, the resident medical superintendent, by whose management of the institution the cost of upkeep is now under the average of the whole of the Irish asylums.

*Timothy White, L.R.C.P. & S. Edin., L.F.P.S. Glasg.*

I regret to announce the death of Mr. Timothy White, which occurred on August 23rd, after a lingering illness from hemiplegia and heart failure, at the Royal Victoria Hospital, Belfast. Born near Clough, in co. Antrim, Mr. White studied at Queen's College, Belfast, and obtained the diplomas of the Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow in 1891. Beginning practice in Belfast, Mr. White had a large *clientèle* among the working classes, with whom he was a great favourite. For a number of years he was a member of the city council of Belfast.

Sept. 10th.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*The Competitive Examinations for Hospital Externeships.*

THE competitive examinations for the post of externe to the Paris hospitals, which will begin in the latter half of this month, are subject to an important new regulation that is arousing vigorous protests on the part of the student body, who threaten to leave the hospitals without externes unless their protests are heeded. This regulation ordains that first year's students shall not be eligible for the competition until after they have made their fourth inscription, that is to say, after Oct. 10th. It will be remembered, for I referred to it at the time, that in consequence of the disturbances which caused the closing of the school at the Faculty of Medicine during the first semester of 1912, throughout the entire course of M. Nicolas, no inscription was then able to be taken. The fourth inscription, in the ordinary course of events, should have taken place for the period from July to October. The students insist that they are perfectly capable of taking part in the competition for the externeship with their inscriptions, and that the new rule very seriously affects their interests. In the first place, it prevents them from taking part in the competition for the military service, which will occur the third week in September; and, further, in place of taking part in the examinations with their fellow students of the second and third years, and thus of being judged solely on their merits, they will constitute in October a special class, open to suspicion with regard to the disturbances of December, January, and February last, in consequence of which the examiners will undoubtedly be especially severe. The future candidates are the less satisfied to submit to this injustice, because the Assistance Publique needs their aid in the hospital service. If these students do not compete the Paris hospitals will be short of 200 externes; and since at present there is habitually a deficit the hospital services will be completely disorganised. The students earnestly hope that the usual conditions for the competition will be restored, which, since the fourth inscription is a mere formality, could easily be effected.

*The Consumption of Alcohol in France.*

The quantity of pure alcohol used for general consumption in France for each year since 1907 has been computed as follows: 1,289,408 hectolitres in 1907, 1,339,578 in 1908, 1,342,006 in 1909, 1,399,034 in 1910, 1,574,018 in 1911, thus showing a steady increase. It was particularly high in 1911, reaching nearly 20 per cent. more than at any time for five years previously. The consumption of absinthe, in spite of the super-tax, has risen in the period under consideration from 160,000 hectolitres (of pure alcohol) to 220,000, equivalent to an increase of 60,000 hectolitres, or 40 per cent. The mean consumption of pure alcohol per inhabitant was in 1907 3·31 litres. It rose in 1911 to 4·06 litres, and the rise has been maintained. Thus, in 1907 it was 3·31 litres, 3·44 litres in 1908, 3·46 litres in 1909, 3·50 litres in 1910, and 4·06 litres in 1911. These figures are really under the mark, because to the taxed consumption must be added the uncontrolled production of the untaxed distillers (*bouilleurs de crû*). A vigorous onslaught is therefore urgently needed against alcoholism, and it is necessary to limit the number of drinking shops.

*The Association d'Enseignement Médical Professionel.*

This association is organising, in accordance with its annual custom, two series of vacation courses. In these courses practitioners, and even students, will find the essentially practical elements of clinical methods and special therapeutic measures in the various branches of medicine and surgery. One of these series takes place at Easter, the other at the end of the long vacation, in the last two weeks of September. The forthcoming courses will be held from Monday, Sept. 23rd, to Saturday, Oct. 5th, 1912, and will comprise general surgery (fractures, autoplasty, hernia, appendicitis); diseases of the nervous system (electro-diagnosis, electro-therapy, radio-therapy); the diagnostic examination and therapeutics of diseases of the nose, the larynx, and the ear; diseases of the heart and lungs; diagnosis and treatment in gynæcological affections; dermatology and syphiligraphy; stomatology; diseases of children, including practical orthopædics; midwifery, its infections and operations; ocular affections; and diseases of the digestive tract. The fees are 25 francs for each course, which will include from 8 to 12 lessons. The detailed programme will be sent on application to Dr. Mouly, Hôtel des Sociétés Savantes, rue Serpente 28, Paris.

*Wet Nurses.*

The Paris municipal council has adopted a plan to assure for wet nurses a distribution of their services through the intermediary of the Mutualité Maternelle. Every pregnant woman, resident in Paris for at least two years, when the entire family income does not exceed 1800 francs, is eligible for assistance. To benefit by this privilege, the fact of pregnancy must be notified before the seventh month. The pregnancy being established, the patient will be entered on the lists of the Mutualité Maternelle, and will benefit as an "extra statutory" beneficiary by advantages offered by this association. The same privilege will be accorded to every woman whose husband is undergoing his army service, even though she may have lived in Paris less than two years, and though entitled to military medical aid. The city of Paris will contribute to the treasury of the Mutualité Maternelle the sum of 20 francs for each "extra statutory" member thus accorded aid. It has been decided that the service shall come into operation from Jan. 1st next, that the investigations shall be conducted by the Mutualité Maternelle, and, in case of dispute, by the administration, and that families shall be notified by posters concerning steps to be taken and the conditions under which the assistance can be obtained.

Sept. 10th.

# UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

*Typhoid Fever Spread by a Bacillus Carrier.*

AN epidemic of typhoid fever which broke out recently in Moorestown, New Jersey, has been traced to a bacillus carrier. The origin of the disease was found to be the milk from a certain dairy farm. Blood tests were taken of all the employees on the place, and according to the report from the New Jersey State Laboratory the manager of the farm was discovered to be the carrier. Up to the present time there have been 20 cases of typhoid fever in Moorestown, and in every instance the patient had been accustomed to drink milk from this farm.

*Increased Consumption of Spirituous Liquors and Cigarettes.*

According to the preliminary annual report of the United States Commissioner of Internal Revenue issued recently, the consumption of whisky in the United States during the fiscal year ending June 30th, 1912, was exceeded only by the figures given for the year 1897. The production of whisky and rum in the United States for the year ending June 30th, 1912, was 88,000,000 gallons, being 13,000,000 gallons more than the amount produced in 1911. The consumption of beer during the same period was 62,108,733 barrels, a decrease of more than 1,000,000 barrels as compared with 1911. The consumption of cigarettes during the fiscal year in question showed a very large increase, the number sold being nearly 2,000,000,000 more than in the previous year.

*Death of Dr. T. B. McClintic.*

Passed Assistant Surgeon T. B. McClintic, of the United States Public Health and Marine Hospital Service, died on August 13th from the disease known as Rocky Mountain "spotted fever." He had been investigating the fever in the Bitter Root Valley, Montana, for the past two years, and is said to have been successful in destroying the ticks which transmit the disease. His illness was announced on August 9th, and he started for Washington on the same day. *En route* the disease was diagnosed as "spotted fever," and when he arrived in Washington on the morning of August 13th he was in a moribund condition. Dr. McClintic was 39 years of age and had been connected with the Public Health and Marine Hospital Service for 15 years.

*Distribution and Transmission of Rocky Mountain "Spotted Fever."*

The States in which Rocky Mountain "spotted fever" occur most frequently are Montana and Idaho, and it has been conveyed there mainly through the medium of cattle or wild animals. Bitter Root Valley, Montana, is apparently its original home. The credit of discovering the nature and mode of transmission of the disease has been given to different observers. One account is to the effect that in the year 1901 Dr. Wilson and Dr. Chowning announced the theory that a wood-tick was the agency by which it was conveyed from one human being to another, or from one animal to another. According to the late Dr. H. T. Ricketts, however, the first experiments which resulted in the actual proof of transmission of the malady by the wood-tick were conducted by Dr. L. P. McCalla and Dr. H. A. Brereton, of Boise, Idaho, in 1905. The results of their experiments were fully confirmed afterwards by Dr. Ricketts himself. A remarkable feature in connexion with this fever is that different degrees of virulence exist in different localities. In Idaho the death-rate therefrom is from 5 to 7 per cent., while in the Bitter Root Valley it is about 70 per cent. In the year 1904 it was estimated that in this region up to that year 200 cases of the virulent type of the disease had occurred, while in Idaho the annual average is stated to be between 400 and 500 cases. The Public Health and Marine Hospital Service has decided that its attempts to eradicate the disease shall be concentrated in the Bitter Root Valley because of the possibility that the virulent form of the disease now restricted to that part of the State may eventually be carried further afield.

*Medical Aid for Indians.*

President Taft, in a special message to Congress on August 10th, recommended the immediate passage of a Bill appropriating $255,350 for the establishment of a special medical service for the treatment of Indians. He stated that 250,000 Indians are without medical attention and are being decimated by disease.

*Suicides in New York State.*

Recently published statistics show that during the first half of the present year 678 persons committed suicide in New York State. Inhalation of illuminating gas was the method of *felo de se* most favoured, 160 individuals compassing their end by this means. Hanging was the mode employed by 144, while 141 persons shot themselves, and 130 took poison. Sharp instruments were the means of self-destruction used in 51 cases, and drowning in 20 cases. May was the month in which the largest number of suicides occurred, while the list for January was the smallest.

*Prevalence of Gonorrhœal Vaginitis in Children.*

Gonorrhœal vaginitis is so prevalent among children in New York that the Mount Sinai Hospital Dispensary has instituted a special class for the treatment of such cases, and has appointed to the department a special physician.

*Plague in Porto Rico.*

According to the latest reports from San Juan, Porto Rico, the situation as regards plague exhibits great improvement. No fresh cases have developed, and the authorities state that the disease is quite under control.

*Epidemic Poliomyelitis in Buffalo.*

The epidemic of poliomyelitis in Buffalo is so serious that the New York State authorities have made a request for Federal aid, and Passed Assistant Surgeon W. H. Frost, of the United States Public Health and Marine Hospital Service, has accordingly been sent to Buffalo.

Sept. 2nd.

# NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

*The Pasteur Institute of India.*

A MEETING of the central committee of the Pasteur Institute was recently held in Simla,[1] and the eleventh annual report has been published. Ever since the institute was opened each year a steadily increasing number of persons have presented themselves for treatment, and last year formed no exception to the rule. The increase in numbers is, indeed, becoming formidable, and it is difficult, the directors state, to foresee the limit to this increase. The number of cases treated in the opening year (1900–01) was 321; by 1910 the figures had risen to 2073, while in the year under review 2268 cases were treated. Last year's increase was due to the greater number of Indian patients who presented themselves for treatment, there being an actual drop from 354 to 297 in the number of European patients. There was a marked decrease in the attendance of military patients, the British army only supplying 83 cases and the Indian army 111. Since the opening year the number of Indian patients at Kasauli has increased over elevenfold, while in the case of Europeans the total of 297 patients attending last year compares with 146 in the opening year. More deaths occurred at the institute last year than in any previous year; 43 cases ended fatally, in every case but one of which the victim was an Indian patient. Of the 43 cases which succumbed 12 developed symptoms within the limit of the course of treatment (18 days), 17 with 15 days after the completion of the treatment, and 14 still later. Only those cases are recorded as "failures," it is explained, where symptoms do not become apparent until 15 days after the course at Kasauli has been completed. Accordingly, out of the 2268 cases treated the number of "failures" was 14, or 0·6 per cent., the identical figures representing the average percentage of "failures" throughout the years the institute has been open. Of the 12 cases in which hydrophobia developed during treatment, in 9 instances the bites had been inflicted in some part of the head or face, while in cases in which hydrophobia developed more slowly the injuries were often on parts of the body remoter from the brain. These particulars bear out the general belief that the danger of the bite varies according to its proximity to the brain, the theory being that the shorter the nerve-path to be traversed by the

[1] THE LANCET, August 10th, 1912, p. 414.

virus the shorter the period of incubation and the smaller the chance of escape. At the same time, in the opinion of the directors, apparently the theory is not incontestable. "Whatever," they write, "be the merits of the theory, we do not think that sufficient account has been taken of the factors other than locality which may have a causal relationship to the effect." The directors add that in order to make a really satisfactory estimate of the danger to which persons who are subject to bites of rabid animals are exposed other points than locality must be inquired into. For instance, they adduce the following significant considerations: that bites on the face are often accompanied by bites in other localities, that an animal which reaches the face of an individual is usually a specially ferocious and aggressive one and will inflict deep bites, and that the face is not a part of the body which can well be thoroughly cauterised and is bare of clothing, while the skin of the face is thin and easily penetrated. They particularly emphasise the need for the compilation of statistics of mortality among persons who have been bitten but not sent to Kasauli. They appeal for coöperation in the collection of these statistics, and complain that many persons have taken no notice of their appeal for help in this matter.

*The Cocaine Habit in India.*

The use of cocaine in India is becoming a very serious evil indeed, and the natives of India have taken to the cocaine habit with an avidity that is surprising. The Excise authorities are continually making large seizures of cocaine, and the restrictions imposed by law are not sufficient either to suppress the consumption of the drug or to restrict its importation. In order to strengthen the hands of the Excise department the Bombay Government have, I learn from the *Englishman*, amended the Abkari Act in a manner that may be expected to act as a deterrent. Sir Richard Lamb, who introduced the amendment, said it was designed to check the illicit importation of cocaine and gave Abkari officers the power to secure surety bonds from the accused charged with an offence under the Act; while one clause raises the powers of magistrates in regard to fines. Sir Richard Lamb referred to a case before the chief presidency magistrate involving cocaine to the value of Rs. 20,000, while the highest fine he was able to impose was Rs. 250. The amendment now introduced does away with that difficulty, for it enabled a magistrate to impose a term up to two years' imprisonment and a fine of Rs. 4000. The *Englishman* says: "In view of the large importations of cocaine into Calcutta some such provisions of the law in the Presidency would appear to be called for. The cunning devices which are resorted to in the importation of this pernicious drug are innumerable. Quite recently, we understand, a large consignment was sent out packed in tins which usually contain a farinaceous food, and the discovery that these were filled with cocaine was quite an accidental one."

*The Transmission of Plague.*

The *Indian Medical Gazette* for July, in an article on the lessons of the plague in Manchuria, discusses in an impartial manner the bearing of that terrible epidemic on the rat flea theory of the transmission of plague. Whilst the *Gazette* believes that the rat theory holds the field, it considers that it will be unscientific as well as unwise to belittle or ignore opinions on the other side. Dr. Hossack, who has had plague under observation in Calcutta for many years, has vigorously challenged the views commonly attributed to the Plague Commission, and has maintained the possibility of the transmission of plague by other means than rat flea infection. His opinion has found considerable support in Europe, and obtains apparent confirmation from the Manchurian epidemic. In concluding its observations the *Indian Medical Gazette* writes: "We hold no brief for either party; the matter is one for observation. The rat flea theory apparently cannot explain the virulent pneumonic outbreak in Manchuria, and it is absolutely clear that it behoves the adherents of the rat flea theory of plague to reconsider their attitude in view of this terrible outbreak." This is a very notable pronouncement, and it is hoped that the correspondence which the *Gazette* invites will throw much needed light on the subject.

*A Progressive Municipality.*

The Simla municipality have sanctioned the widening of the road to Summer Hill between the Boileauganj Bazar and the commencement of the New Road. The health officer of Simla has been authorised to purchase a supply of aluminium milk cans. These cans are presumably for the use of milkmen bringing their milk into the station, and the substitution of these for the existing casual methods of transport should help to improve the milk-supply of the station.

*Outbreak of Fever in Calcutta.*

A mild form of fever described as dengue is prevailing in Calcutta, more particularly in the northern half. Authorities are not decided as to its infectious character, and there are conflicting opinions. The nature of the disease and its causes are unknown, and the health officer has few opportunities of making original investigations. Inquiries, however, continue to be made. The disease being mild and there being no mortality, only part of the cases come under the attention of general medical practitioners.

August 8th.

## AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

*Naval Surgeons.*

THE Federal Government recently asked the Australian universities to nominate candidates for five positions as surgeons in the Australian Navy. The conditions required were an age limit not above 28, and that applicant was either of Australian birth or permanently domiciled in Australia. The salary and allowances amounted to between £400 and £450 per annum. No nomination was made, and the positions are now open to applicants in the usual way with the same conditions. Dr. H. Caw, of Adelaide, has been appointed staff surgeon at a salary of from £600 to £700 per annum according to length of service.

*Victorian Charities.*

The report of the inspector for the year ending June, 1911, has only just been issued. It deals with charities subsidised by the State. The total number of cases relieved during the year was 155,510, an increase of 2790 on the previous year. Outdoor relief was given to 113,435 persons, an increase of 978. The various societies assisted 10,025 persons, as against 12,898 the previous year, the decrease being probably due to old age pensions. The receipts of the institutions amounted to £299,587, and their financial position was considered very satisfactory, the surplus being £7128. Of the revenue received £90,954 came from the Government, £12,007 from municipalities, £84,003 from local contributions, £24,489 from legacies and bequests, £10,364 from interest on investments, £32,318 from patients' contributions, and £15,808 from inmates' labour. Local contributions increased by £3946, and patients' contributions by £2334. The persons treated at maternity and foundling refuges comprised 475 adults and 411 infants. All the latter were supposed to be "first cases," and only 37 died, as compared with 35 deaths out of 73 infants admitted without their mothers. This was an appalling death-rate, and the figures showed the value of having the mother with the child. The maternity refuges do not receive "second cases." Where these "second cases" occur it is recommended that the mothers should be placed in homes established for them. The following particulars relate to metropolitan general hospitals:—

| Hospitals. | Cost per bed for daily average. £ s. d. | Cost of administration. £ s. d. | Cost per cent. of collection. £ s. d. |
|---|---|---|---|
| Melbourne ... | 79 19 9 | 1,332 11 10 | 2 17 2 |
| Alfred ... ... | 73 17 6 | 1,251 13 ·1 | 15 18 0 |
| Homœopathic | 56 7 0 | 581 10 11 | 15 12 6 |
| St. Vincent's... | 62 18 9 | 46 0 6 | — |

The State Premier has reintroduced his Bill for the control of charities by a board of three Commissioners, which was dropped last session owing to the prorogation of Parliament. It is proposed that existing committees of management should not be disturbed, but that the Commissioners should have power to close existing institutions.

*The Public Health of Victoria.*

The report of the Board of Public Health for Victoria has been issued to cover the three years 1908–9–10. The percentage of vaccinations in relation to births during these

years was 72 per cent., 71 per cent., and 72 per cent. This is the only Australian State that is fairly well protected by vaccination. In 1909 the case percentage of deaths from diphtheria was 6·01; from scarlet fever 1·25; and typhoid 8·64. The death-rate from all causes per 1000 of population was 10·4. In regard to pulmonary tuberculosis the report stated: "Since the disease has been declared notifiable the diminution in the death-rate has been distinctly marked in all parts of Victoria with the exception of Bendigo, which has double the rate of the State taken as a whole." The reports of the three State consumptive sanatoriums show that 1348 cases were treated, of which 924 were reported much benefited or disease arrested; 8 deaths occurred. The Victorian Government has decided to institute a tuberculosis dispensary, which will be under the control of the Board of Public Health. A building was selected for the purpose, but was at once objected to by the other tenants, and has been since declared unsuitable. The new home for advanced cases with 100 beds will shortly be opened. A beginning has been made in Melbourne with the scheme outlined by a special advisory committee to the Victorian Government for the prevention of syphilis. A ward containing 25 beds has been provided for male patients at the Alfred Hospital and for women at the Women's Hospital. Entrance and treatment will be free and voluntary, and only the dangerously infective stage will be detained.

*Dispute at a Hospital.*

Owing to the appointment of a practitioner to the staff of the Kurri Kurri Hospital in New South Wales who was not a member of the British Medical Association, the remainder of the staff resigned their positions, and the nursing staff followed suit. The newspapers have described the incident as a medical strike, but it does not appear that the staff declined to deal with any serious cases of illness. It is probable that a compromise will be arrived at.

*The Danger of Small-pox.*

In the Federal House of Representatives Mr. W. R. N. Maloney stated that a medical man had informed him that not 1 per cent. of the population of Sydney were vaccinated. In view of this statement he criticised adversely the recent action of the quarantine officials in bringing shipping infected with small-pox direct to Sydney from the port of arrival. There is no question that if small-pox became established inshore at Sydney a very serious situation would be created.

August 8th.

# Obituary.

## REGINALD EDWARD THOMPSON, M.D. CANTAB., F.R.C.P. LOND.,

LATE CONSULTING PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.

THE death on Sept. 10th of Dr. R. E. Thompson removes one who was well known in medical circles a generation ago. Reginald Edward Thompson was the son of Mr. Serjeant Thompson, and was born in London in 1834. He was educated at Brighton College, at Trinity College, Cambridge, and at St. George's Hospital. He took the degree of M.B. Cantab. in 1860. In the following year Dr. Thompson accompanied (the then) Viscount Milton on a shooting expedition to the far Canadian North-West, at a time when herds of buffalo and unsubdued tribes of Indians were still in sole possession of the prairies of Alberta and Saskatchewan. It was on this hunting trip that Viscount Milton conceived the idea of crossing the Rocky Mountains, which feat he accomplished a year or two later in conjunction with the late Dr. W. B. Cheadle. It was the account given by Milton and Cheadle in their book, "The North-West Passage by Land," of the potentialities of the North-West and of the passes through the Rocky Mountains, that led to the inception and construction of the Canadian Pacific Railway.

Dr. Thompson had meanwhile returned to his old medical school, that of St. George's Hospital, where he shortly afterwards was appointed medical registrar. During the first year of his tenure of this post one of the last outbreaks of typhus fever in London occurred among the tenements which then adjoined Sloane-street and the neighbourhood. 120 cases of typhus fever were admitted to St. George's Hospital during the year, and as medical registrar Dr. Thompson naturally had opportunities for observing most of them. Near the end of the epidemic he caught the disease himself. Realising the nature of his illness, he wrote down the exact date at which he expected the crisis of the fever; he subsequently became delirious, but the crisis duly arrived on the predicted day, and he made a satisfactory recovery. Dr. Thompson contributed a paper on Typhus Fever to the first volume (1866) of the St. George's Hospital Reports. In the next year he wrote on Typhoid Fever, emphasising the points in the differential diagnosis from typhus. To the third issue (1868) he contributed a paper on Paralysis of the Extensors, and it is interesting to note that in this same volume appeared articles by Mr. Timothy Holmes upon Mr. Lister's methods of treating wounds with carbolic acid (first published in the preceding autumn) and by Dr. R. Barnes upon his hydrostatic dilating bags for accelerating labour.

In 1869 Dr. Thompson was the author of a paper on Rheumatic Pericarditis in the same series of reports. It was in this year that he became assistant physician to the Brompton Hospital for Consumption; in 1880 he became physician, a post from which he retired in 1894; and from this date until 1901 he was consulting physician to the hospital. From 1871 to 1873 he was also physician to the Seamen's Hospital, Greenwich. In 1880 Dr. Thompson was secretary to the Royal Medical and Chirurgical Society, and in 1883 was vice-president.

Besides the above-mentioned early contributions to the St. George's Hospital Reports, Dr. Thompson was the author of the "Causes and Results of Pulmonary Hæmorrhage," 1882; the "Physical Examination of the Chest," 1884; and "Family Phthisis," 1884; besides papers in current medical periodicals. He took the degree of M.D. at Cambridge in 1863; was M.R.C.P. in 1862 and F.R.C.P. in 1868.

Dr. Thompson preserved a most robust and distinctive personality up to the date of a cerebral hæmorrhage in November, 1911. In earlier days he was very proficient in music and painting, in both of which arts he took a keen delight. In the latter part of his professional career he did a great deal of life insurance work, and it is, in fact, only lately that he completely relinquished this part of his practice.

Dr. Thompson married in 1874 a daughter of Professor Augustus de Morgan, the mathematician, and sister of Mr. William de Morgan, the novelist; she predeceased him by many years. Dr. Thompson is survived by two sons.

## LEONARD ARTHUR BIDWELL, F.R.C.S. ENG.,

SENIOR SURGEON TO THE WEST LONDON HOSPITAL AND DEAN OF THE WEST LONDON POST-GRADUATE COLLEGE.

Mr. Leonard Bidwell, whose death on Sept. 2nd we recorded last week, was the son of Leonard Bidwell, a high official in the Post Office. He was educated at Blackheath School and St. Thomas's Hospital, and qualified in 1886, obtaining the Fellowship of the Royal College of Surgeons four years later. The appreciations from two colleagues which we print below give so clear an account of his career and personality, and above all of his great ability as an organiser, that little remains for us to say. The West London Hospital and its Post-graduate College were to him the chief things in life, and in the threefold capacity of surgeon, teacher, and administrator he absorbed himself. Beyond his work at the West London Hospital, he was a surgeon-major in the Royal Bucks Hussars, I.Y., surgeon to the Hospital for Invalid Ladies, and consulting surgeon to the City Dispensary and the Blackheath and Charlton Hospital, while he had lately been president of the Chelsea Clinical Society. He wrote many papers on abdominal surgery and was the author of the successful book, "A Handbook of Intestinal Surgery," and more recently of a volume on "Minor Surgery."

Dr. Seymour Taylor writes:—"The announcement of the sudden death of Leonard Bidwell will be a severe blow, not only to his relations and his close friends, but also to his colleagues and the medical profession. Bidwell entered St. Thomas's Hospital as a student in 1882. It is not recorded that he was a prizeman or a successful competitor for any medal, but I have a distinct recollection of him as a skilled dissector, for I was teaching

in the anatomical rooms at St. Thomas's when Bidwell was a student there. He gave me the impression that he was even then a man who was bent on acquiring a thorough knowledge of anatomy and a complete mastery of the use of surgical instruments rather than on applying himself merely to book work and reading for prizes. Yet he was a student of great ability and with a retentive memory, so that he seldom had to read or study any anatomical problem more than once. And in proof of his ability, emphasised as it was when he came into the wards as a dresser, he was, when duly qualified (1886–87), appointed assistant house surgeon and subsequently full house surgeon, in spite of the competition of men who had apparently taken a higher position in the school prize-list. And few house surgeons have left at St. Thomas's so brilliant a record of sterling work. Surgery was evidently his attraction and calling, and in due course he took the diploma of Fellow of the Royal College of Surgeons. Then he looked round for an opening for his great surgical abilities. In the severe competition for a place on the staff of a large hospital in London there are necessarily many disappointed candidates, and I remember Bidwell's regrets that his abilities had not found their due recognition at St. Thomas's, or at least it may have been that at that time there was no vacancy or even prospective vacancy on the surgical side of the hospital. Then came a vacancy on the assistant staff at the West London Hospital, and Bidwell at once applied for the post. It is one of my proudest remembrances that I warmly supported him, not only before my colleagues, but also before members of the board of management of the West London. For I knew his sterling worth and abilities, though at the time I little knew of his great administrative powers. For it is not too much to say that although the initiation of the post-graduate school at the West London was due to the enthusiasm of Charles Bell Keetley, its rapid rise and success were, in the main, the result of Bidwell's untiring work as dean. He interviewed the heads of the medical services of the Navy and of the Army, and showed them the advantages which the West London Post-Graduate School could offer to surgeons reading for promotion or wishing to gain knowledge in special subjects. What were the results? The school rose in importance; the number of post-graduate students increased rapidly; practitioners not only from the neighbourhood but from distant towns and places attended the classes and studied afresh in the hospital wards. And all, or nearly all, this success was due to Bidwell's guiding genius. All the threads of organisation were in his hands; he knew everything about the working of the school; he forgot no detail; every difficulty or hitch in the running of the machine he at once set right, for his insight and business acumen allowed him at once to put his finger on the very place or action which occasioned any friction. Of Bidwell's worth as a surgeon others could afford a truer estimate than I can. But I can assuredly say that I have never met a man who had a clearer insight of the surgical problems which arise in the physician's wards. We sought his help and guidance with the utmost confidence. His dexterity as a so-called abdominal surgeon was marvellous. His hands, small and delicate as a woman's, were so deft that one often marvelled at the quickness and skill with which he opened the abdominal cavity, found the lesion, brought it to the light, and removed it or remedied it. What apparent irony of fate it is that he himself should end his active, short, but remarkable career after an operation of which he was such a great exponent, although brilliantly performed by an experienced surgeon of his own selection. As a friend I have little to say. He never made enemies. During the whole of the many years I was associated with him we had no difficulties, and never the slightest friction. As a holiday companion he was charming and loveable. When salmon fishing, he always assigned the best pools and streams to his friends, and even then he directed and ordered the day's sport, so that the best results could be obtained. He has gone, and long before his good work was finished. As I stood by his grave the thought came to me that many of us could have been better spared. It will not be for all of us to leave so pure and so brilliant a record."

Mr. N. Bishop Harman sends the following appreciation:—"*There be of them that have left a name behind them, that their praises may be reported.*" To few men can this thousand-year-old saying be more fittingly applied than to Leonard Arthur Bidwell, whose unlooked-for and untimely death it is our lot to deplore. Bidwell was a man who would have made his mark in any position of responsibility, for he had a true insight into things and a capacity for working out his ideas. In that state of life and work to which he devoted himself he has made a mark and a memorial which few can succeed to, for in the West London Post-Graduate College, the constant care of many years, he has left a work which belongs to him more than to any other. My first meeting with him is well in memory. When making a toilsome round of calls upon members of the staff of a hospital to whose ranks I was a candidate, I called on him. It was the first time I had seen him. His bodily presence was sufficient to make a mark in one's mind. The strength of his face, the ease of his bearing, the keen glance of his dark eyes, so un-English in many aspects and yet so totally unforeign in the whole grouping, make a picture in my mind now. Then the care with which he went over one's possibilities as a suitable worker, a good colleague, and, above all, a good teacher for the college, left no doubt of his sincerity; and my experience I have reason to know was common to all who came to see him on such matters. And withal there was a kindliness in his manner, so that even on such occasions the most timid of men left his presence with a certain knowledge that his particular claims would receive fair measure at his hands. The experience of a moment was not belied by the come-and-go contacts of daily life. He carried with him always the same sense of fair-mindedness, and without doubt much of his success in building up the Post-Graduate College to its present-day measure was due to this one characteristic of his. Ideas, energy, power of organisation, constancy in effort, all these were needed, and he had these powers; but these alone would not have welded together a hospital staff with the diverse aims and ambitions of its many-sided members into a compact working whole such as a post-graduate college needs; this thing his natural and perfected kindliness of manner did, and almost without the knowledge of those upon whom it was exerted. We know now. Of his power as an organiser the college alone is sufficient evidence, but it may be permitted to recall many council meetings when the affairs of the college came up for consideration and arrangement. Then I learned to be amazed at the completeness of his mastery of every detail of the work and the perfection yet elasticity of the system which he had evolved. To those whose imaginations have been kindled by the work of the college, there is the certainty that work so well begun and continued cannot fail to grow to yet fuller measure, and a keen regret that he who made it has not lived on to see it. In his work as a hospital surgeon no man was more punctilious in the discharge of duties, no man put more of his very life into his work. As a teacher I know something of his attraction. I attended no class of his, but many a time it has fallen that a class of my own had to take its turn in the same room which a class of his had just occupied. When the hour had passed his men would be found still busily absorbed in mastering his lessons, too interested to depart until almost physical force was employed to make room for the next batch. There is no teacher who does not know how much depends upon his own interest in his subject and his own power of communicating that to his pupils; be these never so keen, his interest must be perfect to bring theirs to a sound working level. That Bidwell could do; I have seen it."

By the death of Mr. Bidwell at the height of his career post-graduate medical education in London loses a distinguished leader, while the loss to the hospital and college which he loved and served so well can scarcely be measured.

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## T. STEVENSON BALFOUR, M.D., C.M. EDIN.

Dr. T. S. Balfour, who died at his residence, Essex House, Chard, Somerset, on Sept. 6th from septic poisoning in his forty-fifth year, was the sixth son of the late Dr. G. W. Balfour, of Edinburgh, physician-extraordinary to the late Queen Victoria. He received his medical education at Edinburgh University, and also studied at Berlin and Vienna. He graduated M.B. and C.M. of Edinburgh in 1890, and three years later took his M.D. degree. After holding an appointment at the Royal Maternity Hospital, Edinburgh, Dr. Balfour went to Chard as assistant to Mr. Northcote Spicer, and eventually succeeded to his practice. In 1900 he married the youngest daughter of the late Lieutenant Tabuteau, R.N. Dr. Balfour was very highly

esteemed in Chard; he was at one time a member of the town council and an officer in the old local company of volunteers. He was also a prominent Freemason. Dr. Balfour had an extensive practice in Chard and the district, and held district appointments under the Axminster and Chard unions. He will be greatly missed in Chard, where he took a great interest in all local matters, and much sympathy is felt there for his widow and two young children.

### WILLIAM CLAPTON, F.R.C.S. ENG., L.S.A.

William Clapton, who died recently at Canterbury at the age of 78 years, was a well-known London practitioner. He was educated at the Bluecoat School and St. Thomas's Hospital. After a successful career as a student he commenced practice in the City. He entered fully into municipal life and represented the Vintry Ward on the Court of Common Council. He was also medical officer of the British Equitable Assurance Company. On retiring from practice he went to Canterbury, where he associated himself with much philanthropic work in connexion with religious societies and charities. Mr. Clapton will be much missed, as he was sincerely respected.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. O. Lorenz, of Essen, a senior staff surgeon of the Prussian Army.—Dr. Leopoldo Thevenin, to whom the establishment of the department of radiography in the Maciel Hospital, Montevideo, was largely due. He was also a writer on general subjects under the pseudonym of "Mr. Perrichon."—Dr. Nicolás Ramallo, founder and for many years director of the Pirovano Hospital, Buenos Aires. He was also a member of the municipal consultative council.—Dr. Luis M. Saravia, obstetric physician to the Hospital Rawson, Buenos Aires.—Dr. F. Daniels, major-general in the Dutch Territorial Medical Service, and formerly chief surgeon of the Amsterdam Military Hospital. His age was 63.—Dr. F. A. Forel, formerly professor of anatomy and physiology in the University of Lausanne.—Dr. Josef Neuberger, *oberarzt* of the Nürnberg Municipal Hospital, whose services on behalf of medical organisations have been very considerable and have met with some success. His death from heart disease at the early age of 45 is much deplored by his professional brethren.—Dr. Earl Beal, professor of clinical medicine in the New York Polyclinic Medical School and Hospital.

# Medical News.

UNIVERSITY OF ST. ANDREWS: HONORARY DEGREES.—At the recent meeting of the British Association for the Advancement of Science at Dundee, the University of St. Andrews conferred the honorary degree of Doctor of Laws upon Professor Barrois, of Lille; Professor Fano, of Florence; Professor Gley, of Paris; Professor Hamburger, of Groningen; Professor Heger, of Brussels; Professor Julin, of Liège; Professor Jüngersen, of Copenhagen; Professor Kayser, of Bonn; Professor Kossel, of Heidelberg; Professor Keibbel, of Freiburg; Professor Meltzer, of New York; Professor Petersen, of Copenhagen; and Professor Verworn, of Bonn.

THE RIBERI PRIZE OF THE UNIVERSITY OF TURIN.—This prize amounts to 20,000 lire (about £800), and will be awarded after the close of the year 1916 for the work which is adjudged to have most advanced the science of medicine. Such work, if published, must have been printed after 1911. Or it may be sent in before the end of 1916, in print or typoscript—the English language is admissible. Further information may be obtained from Professor Dr. Oliva, Turin.

WORTHING HOSPITAL.—At the annual meeting of the governors of Worthing Hospital the financial position disclosed a deficit on the revenue account of £378 16*s.* 10*d.*, and that towards the cost of building and furnishing the new out-patients' department a sum of £1430 had still to be raised. The amount received from annual subscribers during the year was £634 5*s.* 6*d.* from 430 subscribers out of a population of over 30,000, and an urgent appeal was made for increased subscriptions. The governors have accepted a complete X ray apparatus for use in the hospital as a memorial to Dr. A. H. Collet.

THE STUDENTS' NUMBER OF "THE LANCET."—The following unfortunate omissions occur in the Students' Number of THE LANCET in the list giving the staff of the Glasgow Royal Infirmary. The names omitted are those of Professor Robert Kennedy, as visiting surgeon; Dr. J. S. McConville, as anæsthetist; and Mr. Mackie, as extra-dispensary surgeon.

BEQUESTS.—The late Mr. W. Todd, of Portishead, has bequeathed £250 each to the Bristol Royal Infirmary, Bristol General Hospital, Bristol Eye Hospital, and the Bristol Children's Hospital.

PRESENTATION TO A MEDICAL PRACTITIONER.—On Sept. 3rd, at Porthleven (Cornwall), the local members of the Red Cross Society presented Mr. Henry William Spaight, L.R.C.P., L.R.C.S. Irel., with a watch bracelet as a mark of appreciation for his services as honorary instructor.

## BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND CO., LIMITED, 44 and 45, Rathbone-place, London, W.

Memorials of Old Nottinghamshire. Edited by Everard L. Guilford, M.A., Author of "Little Guide to Nottinghamshire." Price 15*s.* net.

County Churches. Suffolk. By T. Hugh Bryant, Author of "Norfolk Churches" (18 vols.), &c. In Two Volumes. Vol. I., Western Division. Vol. II., Eastern Division. With Illustrations. Price 2*s.* 6*d.* net each.

BLACK, A. AND C., Soho-square, London.

Black's Modern Guide to Harrogate. Edited by Gordon Home. With Twelve Illustrations in Colour Facsimile, a Plan of Harrogate, Maps of the District, and Four Other Plans. Price 1*s.* net.

BUTTERWORTH AND CO., 11 and 12, Bell-yard, Temple Bar, London, W.C. SHAW AND SONS, 7 and 8, Fetter-lane, London, E.C.

Questions and Answers on National Insurance. A Practical and Clear Handbook for All. By Gilbert Stone, B.A., LL.B., of Lincoln's Inn, Barrister-at-Law. Price 1*s.* net.

CHURCHILL, J. AND A., London.

The Treatment of Ringworm. By J. H. Sequeira, M.D., F.R.C.P. F.R.C.S., Physician to the Skin Department and Lecturer on Dermatology at the London Hospital; Consulting Dermatologist to the Radium Institute. Issued by the Medical Officers of Schools Association. Price 1*s.* net.

A Clinical Manual of the Malformations and Congenital Diseases of the Fœtus. By Professor Dr. R. Birnbaum, Chief Physician to the University Clinic for Women at Göttingen. Translated and Annotated by G. Blacker, M.D., B.S., F.R.C.P., F.R.C.S., Obstetric Physician to University College Hospital and the Great Northern Central Hospital, Teacher of Practical Midwifery at University College Hospital Medical School, &c. Price 15*s.* net.

CONSTABLE AND CO., LIMITED, London.

The Task of Social Hygiene. By Havelock Ellis. Price 8*s.* 6*d.* net.

"CROYDON GUARDIAN" OFFICES, 145 and 147, North End, Croydon.

The Arkwrights. A Tale of Old Croydon. With Notes and Illustrations. By John Morrison Hobson, M.D., B.Sc., Past President of Croydon Natural History and Scientific Society. Price 3*s.* 6*d.* net.; or by post, 3*s.* 9*d.*

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

A Practical Medical Dictionary. By Thomas Lathrop Stedman, A.M., M.D., Editor of "Twentieth Century Practice of Medicine"; Editor of the "Medical Record." Price 21*s.* net.

GREENING AND CO., LIMITED, 91, St. Martin's-lane, London, W.C.

Sable and Motley. A Novel. By Stephen Andrew, Author of "The Serpent and the Cross," "Doctor Grey," &c. Price 6*s.*

KIMPTON, HENRY, 263, High Holborn, London, W.C.

Augustus Charles Bernays. A Memoir. By Thekla Bernays. Price 9*s.* net.

KNIGHT, CHARLES, AND CO., LIMITED, 227-239, Tooley-street, London, S.E.

The Triuneverse. A Scientific Romance. By the Author of "Space and Spirit." Price not stated.

LAURIE, T. WERNER, Clifford's Inn, Fleet-street, London, E.C.

The Cathedrals and Churches of Rome and Southern Italy. By T. Francis Bumpus. Price 16*s.* net.

The Complete Cake Book. By May Little, Author of "A Year's Dinners," "Cookery-up-to-Date," "The Dinner Calendar." Price 2*s.* 6*d.*

The Rat-Trap. By Daniel Woodroffe, Author of "The Beauty Shop," "Tangled Trinities," "The Evil Eye," &c. Price 6*s.*

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

The Pituitary Body and its Disorders. Clinical States produced by Disorders of the Hypophysis Cerebri. By Harvey Cushing, M.D., Associate Professor of Surgery, the Johns Hopkins University, Professor of Surgery (Elect), Harvard University. An Amplification of the Harvey Lecture for December, 1910. Price 18s. net.

Pharmacology and Therapeutics for Students and Practitioners of Medicine. By Horatio C. Wood, Jr., M.D., Professor of Pharmacology and Therapeutics in the Medico-Chirurgical College, Physician to the Medico-Chirurgical Hospital; Second Vice-Chairman of the Committee of Revision of the U.S. Pharmacopœia. Price 18s. net.

Practical Anatomy. An Exposition of the Facts of Gross Anatomy from the Topographical Standpoint and a Guide to the Dissection of the Human Body. By John C. Heisler, M.D., Professor of Anatomy in the Medico-Chirurgical College of Philadelphia. With 366 Illustrations, of which 225 are in Colour, by E. F. Faber. Price 21s. net.

Manual of Human Embryology. Written by Charles R. Bardeen, Madison, Wis.; Herbert M. Evans, Baltimore, Md.; Walter Felix, Zurich; Otto Grosser, Prague; Franz Keibel, Freiburg i. Br.; Frederic T. Lewis, Boston, Mass.; Warren H. Lewis, Baltimore, Md.; J. Playfair McMurrich, Toronto; Franklin P. Mall, Baltimore, Md.; Charles S. Minot, Boston, Mass.; Felix Pinkus, Berlin; Florence R. Sabin, Baltimore, Md.; George L. Streeter, Ann Arbor, Mich.; Julius Tandler, Vienna; Emil Zuckerkandl, Vienna. Edited by Franz Keibel and Franklin P. Mall. In Two Volumes. Vol. II. Price 30s. net.

NATIONAL FOOD REFORM ASSOCIATION, 178, St. Stephen's House, Westminster, London, S.W.

Our Children's Health at Home and at School. Being the Report of a Conference on Diet and Hygiene in Public Secondary and Private Schools held at the Guildhall, London, May 13th, 1912. With Dietaries, Press References, Correspondence, and other additional matter. Edited by Charles E. Hecht, M.A. Price 5s. net.; post free, 5s. 6d.

REBMAN, LIMITED, London.

An Introduction to the Study of Adolescent Education. By Cyril Bruyn Andrews. Price 5s. net.

SCIENTIFIC PRESS, LIMITED, London.

Hospital Sisters and Their Duties. By Eva C. E. Lückes, Matron of the London Hospital, Author of "Lectures on General Nursing." Fourth edition, thoroughly revised and partly rewritten. Price 2s. 6d. net.

SELL, CHARLES H., Leighton House, 168, Fleet-street, London, E.C.

Low's Handbook to the Charities of London. 1912. (Seventy-seventh Year of Publication.) Price 1s.

SPOTTISWOODE AND CO., LIMITED, 5, New-street-square, London.

Supplementary Report of the Committee of Reference in Pharmacy to the Pharmacopœia Committee of the General Medical Council. The Most Suitable Limit-Test for Arsenic in Official Substances and Preparations and the Limits for Arsenic that may reasonably be adopted. June, 1912. Price 1s.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

CORLEY, ANTHONY HAGARTY, L.R.C.P. & S. Edin., L.R.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Saintfield District of the county of Down.

MCKERRON, ROBERT GORDON, M.A., M.D. Aberd., C.M., D.P.H., has been appointed Professor of Midwifery in the University of Aberdeen. (Approved by the King on the recommendation of the Secretary for Scotland.)

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

ABERDEEN ROYAL INFIRMARY.—Anæsthetist and Assistant Physician.

ALBERT DOCK HOSPITAL, Connaught-road, E.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing. Also House Surgeon. Salary £50 per annum, with board, residence, and washing. Both for six months.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BETHLEM ROYAL HOSPITAL, Lambeth-road, S.E.—Pathologist and Registrar. Salary £150 per annum. Also Honorary Consulting Surgeon, Honorary Consulting Aurist and Laryngologist, Honorary Ophthalmologist, Honorary Anæsthetist, and Honorary Gynæcologist.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £100 per annum, with board and attendance.

BIRKENHEAD BOROUGH HOSPITAL.—Senior House Surgeon. Salary £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House Surgeon. Salary £75 per annum, with board, rooms, and laundry.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer and Resident Surgical Officer, both for six months. Salary in each case £80 per annum, with board, washing, and attendance.

BIRMINGHAM UNION INFIRMARY, Dudley-road.—Three Assistant Medical Officers. Salary £120 per annum, with apartments, rations, laundry, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Senior Assistant House Surgeon. Salary £100 per annum, with board, apartments, and attendance.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—Two House Surgeons for six months. Salary £80 per annum, with board, lodging, and laundry.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN.—House Surgeon, unmarried, for six months. Salary £80 per annum, with apartments, board, attendance, &c.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRITISH LYING-IN HOSPITAL, Endell-street, W.C.—Resident Medical Officer. Salary at rate of £50 per annum, with board, lodging, and washing.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £80 per annum, with board, apartments, and laundry.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon. Salary £90 per annum, with rooms, board, washing, and attendance.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

DUBLIN, ROYAL VICTORIA EYE AND EAR HOSPITAL.—Two House Surgeons. Salary £40 per annum, and board.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £80 per annum, with residence, board, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and washing.

DURHAM COUNTY ASYLUM, Sedgefield, co. Durham.—Medical Superintendent. Salary £800 per annum, with house, garden, fuel and light, &c.

EDMONTON UNION INFIRMARY, 77, Bridport-road, Upper Edmonton.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with residential allowances.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Ten Clinical Assistants in Out-patients' Department (Medical, Surgical, Ophthalmic, Aural, Dermatological, and Dental).

FEDERATED MALAY STATES MATERNITY HOSPITALS.—One or more Lady Doctors. Salary £300 per annum, and free quarters.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London, N.—House Physician and House Surgeon for six months. Salary at rate of £40 per annum, with board, lodging, and laundry.

GREENWICH, DREADNOUGHT HOSPITAL.—Two House Physicians and Two House Surgeons, all for six months. Salary £50 per annum respectively, with board, residence, and washing.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—House Physician and House Surgeon, each for six months. Salary at rate of £70 per annum, with board, residence, and laundry.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HONG-KONG UNIVERSITY.—Professor of Physiology. Salary not less than £600 per annum, with free bachelor quarters.

HULL, CITY AND COUNTY OF KINGSTON-UPON-HULL.—Senior Tuberculosis Officer. Salary £500 per annum.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also House Physician, unmarried. Salary £100 per annum, with board and apartments.

HUNTINGDON COUNTY HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board and residence.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum and board.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and attendance.

LARBERT, STIRLING DISTRICT ASYLUM.—Junior Assistant Medical Officer. Salary £140 per annum, with board, lodging, and laundry

LEAMINGTON SPA, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEEDS, CITY INFECTIOUS DISEASES HOSPITAL.—Junior Assistant Medical Officer, unmarried, for six months. Salary at rate of £130 per annum, with board, lodging, and washing.

LEICESTER POOR-LAW INFIRMARY.—Second Resident Assistant Medical Officer. Salary £130 per annum, with rations, apartments, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, residence, and washing.

LONDONDERRY COUNTY COUNCIL.—Tuberculosis Officer. Salary at rate of £350 per annum.

LONDON MEDICAL MISSION, Endell-street, W.C.—Resident Medical Officer.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Visiting Physician Salary £100 per annum.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Two House Surgeons. Salary at rate of £50 per annum, with board and residence.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, washing, and attendance.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Resident Medical Officer. Salary £100 per annum, with board and residence.

NEWCASTLE-UPON-TYNE UNION WORKHOUSE.—Female Second Assistant Resident Medical Officer, unmarried. Salary at rate of £100 per annum, with apartments, rations, and washing.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, residence, and washing.

PORTSMOUTH ROYAL HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, &c.

QUEEN ADELAIDE'S DISPENSARY, Pollard-row, Bethnal Green, E.—Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, coal, gas, and attendance.

RICHMOND, SURREY, ROYAL HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board and apartments.

ROCHDALE INFIRMARY.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

ROYAL NAVAL MEDICAL SERVICE.—Fifteen appointments.

ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.

ST. GEORGE'S DISPENSARY, Surrey-row, Blackfriar's-road, S.E.—Anæsthetist. Salary £75 per annum. Also Surgeon. Salary £50 per annum.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

SHEFFIELD ROYAL INFIRMARY.—Junior Resident Medical Officer. Salary £70 per annum.

SOUTHAMPTON, COUNTY BOROUGH.—Assistant Hospital Medical Officer of Health. Salary £200 per annum, with residence, board, and washing. Also Assistant Tuberculosis Medical Officer of Health. Salary £400 per annum.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Third Assistant Medical Officer. Salary £120 per annum, with board, lodging, and washing.

STAFFORD, COTON HILL LUNATIC HOSPITAL.—Assistant Medical Officer, unmarried. Salary £150 per annum, with residence, board, and laundry.

THROAT HOSPITAL, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and laundry.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Senior Resident Medical Officer, unmarried. Salary £250 per annum, with board and lodging.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Honorary Registrar and Pathologist. Also Resident House Physician for six months. Salary at rate of £50 per annum.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Abbeyfeale, in the county of Limerick; at Bellanagh, in the county of Cavan; at Castlegregory, in the county of Kerry; at Corris, in the county of Merioneth; at Dingle, in the county of Kerry; at Ongar, in the county of Essex; and at Rathvilly, in the county of Carlow.

# Births, Marriages, and Deaths.

## BIRTHS.

HARRISSON.—On Sept. 1st, at the Priory, St. Neots, the wife of Ernest H. Harrisson, M.A., M.D. Cantab., of a daughter.

O'GRADY.—On Sept. 5th, at Merrion-square, Dublin, the wife of Major Standish de C. O'Grady, R.A.M.C., of a son.

PAYNE.—On Sept. 8th, at Ardfin, Torquay, the wife of John E. Payne, F.R.C.S. Eng., of a son.

RICHARDS.—On Sept. 8th, at Hillsboro, Glendinning-avenue, Weymouth, the wife of Staff-Surgeon R. Martyn Richards, R.N., of a daughter.

## MARRIAGES.

COWELL—MILLER.—On Sept. 3rd, at Holy Trinity Church, New Barnet, by the Rev. B. G. McCann (cousin of the bride), assisted by the Rev. G. E. Gardner, M.A., Vicar, Ernest Marshall Cowell, M.D. Lond., F.R.C.S. Eng., son of Jasper and Alice Cowell, of Castle View, Steyning, Sussex, to Dorothy Elizabeth, only daughter of Arthur and Christiana Miller, of Lime Hurst, New Barnet.

LIPSCOMB—MILMAN.—On Sept. 7th, at St. Albans Abbey, by the Very Rev. the Dean, W. J. Lawrance, D.D., assisted by the Rev. Leonard Westall, Eustace Henry Lipscomb, M.B. Cantab., J.P., of St. Albans, to Mildred Charlotte, fourth daughter of the late Lieutenant-Colonel Everard Stepney Milman, R.H.A.

NESFIELD—BAIRD.—On August 31st, at All Saints' Church, Norfolk-square, London, W., by the Rev. W. Boyd, Vicar, Captain V. B. Nesfield, I.M.S., son of J. C. Nesfield, M.A. Oxon., of Ealing, Middlesex, to Grace Baird, daughter of the late Dr. J. T. W. Baird, of Congleton, Cheshire.

## DEATHS.

COVEY.—On August 31st, Edward Charles Covey, M.R.C.S., L.S.A., of Alresford, Hants, aged 71 years.

KENDALL.—On Sept. 3rd, suddenly, at Secrora, Harold-road, Upper Norwood, Bernard Kendall, Surgeon-Major (Retired List) I.M.S., aged 81 years.

***N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.***

# Notes, Short Comments, and Answers to Correspondents.

## PRELIMINARY REPORT ON THE FORCIBLE BATHING OF PRISONERS.

BY CHARLES MERCIER, M.D. LOND., F.R.C.P. LOND., F.R.C.S. ENG.

### *Danger and Pain.*

IT has been stated by the Prison Authorities that the practice of forcible bathing is unattended by danger or pain. I have carefully considered the verbal statements of three prisoners, two of whom had been subjected to the operation of forcible bathing; I have personally examined the majority of these prisoners on their release, and I have put leading questions to the physicians who have attended them since. Having approached the subject without the slightest bias in favour of the prisoners, or against the Prison Authorities, I have elicited by this impartial method a series of facts which enable me to give the lie direct to the assertion that forcible bathing of prisoners is neither dangerous nor painful.

Forcible bathing is carried out by means of the plunge bath. This method is frequently administered by the warders without the supervision of a duly qualified medical practitioner. In the majority of cases bathing has on principle been resisted to such a degree that ten doctors and 50 or 60 warders were required for each operation, and in several instances every eye amongst them was blackened, and every nose bloody, and they were held at bay by the heroic prisoners for periods varying from five minutes to 15 years. But it is to be observed that even in many cases where no resistance was offered great inconvenience was inflicted on the officials. Sponges and nailbrushes were flung at their heads, water was splashed—I mean flung—over their uniforms, and soap stuffed into their mouths. It is not surprising that many prisoners state (I may say that nothing a prisoner states would surprise me) that after one operation of forcible bathing they have experienced more serious symptoms and painful cleanliness than after several years' abstention from washing.

One prisoner I examined (Y. Z.), a strong man of fine physique, was so seriously enfeebled by only one bath that he had to be removed to hospital some time afterwards, having in the meantime broken his leg, an occurrence which he attributes to the weakening effect of the bath; and he is but typical of a considerable number.

The antibathing prisoners, it should be noted in passing, have never dirty struck to shorten their sentences, but only to obtain greater privileges and an easier time.

According to the Prison Authorities, forcible bathing was instituted to keep the prisoners clean, for which, however, they have never dirty struck. But in the majority of cases it has had precisely the opposite effect, for it is found that dirt adheres far more readily to the fresh surface exposed by the action of the bath than to the inveterate dirt of years.

It is therefore not correct, in fact it is a lie, to say, as the Prison Authorities do, that they order forcible bathing in order to preserve the cleanliness of their prisoners—in fact, to keep them clean.

### *No Danger to Life or Health when Prisoner does not Resist.*

The Prison Authorities have repeatedly stated "there is no danger to life or health from the process of washing in a bath. Where there is any danger it arises from the violent resistance sometimes offered by the prisoners."

These statements are not borne out by my investigations. One example out of several will illustrate this point.

B. S., a skilled chimney sweep, never resisted the operation. At Easter he had a bath once a week for three days. The anguish he experienced surpassed that of any wash he had had in previous years, and he completely lost his power of recognising even the most familiar objects. He did not even recognise his own face when he looked in the glass. This also is a type of many similar cases.

### *Physical Injuries Inflicted on Prisoners.*

During the struggle before bathing, prisoners were flung out of window, tossed over the roof, tied up in knots, jumped upon, and eviscerated. As might be expected, severe bruises were thus inflicted. The prisoners, however, did not complain of these. They regarded them as inevitable consequences of a fair cop.

Forcible bathing by the plunge bath cannot be performed without risk of taking cold. Catarrh of the nose was especially common, owing chiefly to lack of previous experience and skill in bathing. Though medical officers were informed in several cases that the prisoner was subject to nasal catarrh, no examination was made. The prisoners were usually flung into the bath and held there while water was flung over them. The intense pain so produced often forced uncontrollable oaths from the prisoners. In most cases headache, backache, carache hotache and bellyache—I mean severe gastric pains—as well as

hydrophobia which lasted throughout the forcible bathing, preventing sleep. One says:

After each bath it (the feeling of cleanliness) gets worse, so that it becomes the refinement of torture to have soap applied. Sometimes the face had to be washed three to five times before the dirt would come off.

In several cases sneezing continued for some days. In one case it recurred every day for three years. Swelling of the head occurred—I mean developed—almost invariably and lasted for some time after the release of the prisoner. In a number of cases the soap was flung into the prisoners' eyes, producing inflammation, conjunctivitis, cataract, panophthalmoplegia, and iridectomy. In one case yellow soap was used, causing optic neuritis.

*Accidents.*

The danger of forcible bathing is increased by the accidents liable to accompany the passage of the soap over the unprotected skin. In several cases a brickbat was used in mistake for soap. Even in cases who did not resist great pain and suffocation was caused by stuffing soap into the mouth until it came out at the ears.

*Effects on the Circulatory System.*

In a large number of statements I find that after the bathing a violent sinking was experienced at the pit of the stomach, necessitating the use of alcoholic stimulants, which, however, are forbidden by the brutal regulations of the Home Secretary. In consequence of the long delay, so much had to be taken when the prisoner was at last released that symptoms of acute alcoholic poisoning set in—I mean developed—and continued for some weeks, even although the time was spent in bed with careful feeding and other medical treatment.

*Effects of Forcible Bathing on the Stomach and Alimentary System.*

The well-known principles and precautions for correct bathing were not observed in the prison forcible bathing. Into the completely empty bath for prisoners who had not washed for variable periods (usually 24 to 48 years) the officials (*a*) *rapidly* poured (*b*) *large* quantities of (*c*), often *warm* water. Such a procedure, as is well recognised in balneological practice, invariably causes horror, often agonising, to the novice in bathing, with aeroplaning of the lungs as well as elongation of the ears. The following statement may be quoted as a typical example:—

"In Birmingham I was bathed in warm water. Knowing what to expect, I braced up my nerves and sat quietly in the bath, instead of fighting and struggling against it as I had done in Newcastle. The passage of the soap over my skin caused me to shudder so violently that I shook the walls down and broke the bath. The fall of the bricks upon my head and body was most annoying."

However incredible it may seem, it is a fact that in the Home Secretary's prisons the prisoners are locked in, and are not allowed to go out even on the most urgent private business, however earnestly they may entreat for their liberty.

That such malpractices and abuses could be meted in to prisoners by medical officers I should have believed impossible at the present day had I not numerous cases of the kind before me.

*Effects on the Nervous System.*

I am not here concerned to discuss the right or wrong of sending offenders to prison. I merely point out that on admission the prisoners are in a normal mental condition, and yet within 24 hours, or even less, their nervous systems are so shattered that they forget all about their offences, and even deny that they have committed any. In the evidence I have personally examined, and in the certificates afforded me by other physicians, there is certainly no evidence of hysteria, but yet this lapse of memory is almost universal.

*Mental Condition during Prison.*

To the physical torture of forcible bathing the Home Secretary adds in many cases the intellectual torture of rubbing with bath towels, often made of huckaback. After the horrible ordeal of the bath the prisoner often fell into a state of collapse, from which he was aroused by the hideous uproar of the next bathing time. The sickening thuds of bodies thrown from upper windows, the crash of breaking bones, the ferocious oaths of the prison medical officers, the shouts of diabolical laughter of the warders, the hymns and ejaculations of "Hallelujah" and "Let 'em all come" from the tortured but saintly prisoners, the gibberings and ravings of unhappy prisoners driven mad by the inhuman barbarity of a fiendish Home Secretary, together made up a pandemonium that might well shake up the nerves of the strongest.

One prisoner whom I interviewed, and whom I can certify as possessing a normal mental condition, writes:—"I assure you it was most uncomfortable."

A skilled and trained burglar writes:—"It was a regular beanfeast."

Another writes thus:—"What ho!"

I confess I do not understand this last expression, which seems to clearly indicate that the torture inflicted on this martyr has disordered his mind. He will no doubt end his days in a lunatic asylum, into which he will have been flung by the prison medical officers under the direct orders of the Home Secretary.

The wonder is that anyone can read all this and yet retain his gravity. Neurologists, however, will understand what consequences will ensue—I mean, of course, develop—in future.

I beg that the reader will excuse the eccentric composition, grammar, punctuation, and general arrangement of the foregoing report. My feelings were too much harrowed, and my attention was too much occupied in trying to import the maximum of prejudice, while preserving the form of an impartial investigation, to permit of any attention being paid to these niceties.

## HEALTH MATTERS IN GAMBIA.

A REPORT prepared by Mr. D. Kingdon, acting Colonial Secretary, on the Blue-book of Gambia for the year 1911 has been received at the Colonial Office and presented to Parliament. From this it appears that the total population of the Colony and Protectorate of the Gambia is 146,101, including 188 Europeans. In Bathurst, the chief town, the birth-rate was 34 per 1000, and the death-rate 33·5 per 1000. The general health of the Colony and Protectorate remained good, but the year was a particularly bad one for Europeans owing to several outbreaks of yellow fever which occurred. Nine Europeans succumbed to this disease and five others died from other causes, making a total of 14 deaths, compared with two in 1910. There were two small outbreaks of small-pox—12 cases in all—none of which proved fatal. 2491 vaccinations were performed in Bathurst and 394 in the Protectorate. Sanitary work was actively carried on in Bathurst, where the appointment of a European town warden and the revision of the Public Health Ordinance have enabled the campaign against the mosquito to be prosecuted far more effectively than hitherto. In the Protectorate there are special sanitary instructions for the guidance of the travelling commissioners and chiefs, and prizes are awarded for the cleanest village in each province. It is, however, desirable that more expert attention should be given to the rising European settlements on the banks of the river. During the dry season, from November to May, the climate of the Gambia is pleasant, particularly so in Bathurst, where there is commonly a breeze blowing; but during the wet season the conditions are much the same as elsewhere on the West Coast of Africa and the damp and enervating weather is oppressive. The highest shade temperature recorded in Bathurst was 105° and the lowest 57°. The rainfall was the lowest for some years, being 28·14 inches, compared with 44·0 inches in 1910 and 56·99 in 1909. The Victoria Hospital at Bathurst has accommodation for 25 male patients and 15 female, including two cots for children, also four rooms for isolation cases; the female wards are situate in a separate building from the male. The European Ward, male division, is provided with mosquito-proof "cages" for each bed, and during the yellow fever outbreaks the mosquito protection was found to be adequate. In the female division a small room with two beds has been made mosquito-proof. "Cages" for the other wards are in process of erection. During the year a new hospital was opened at McCarthy Island, containing a European ward, two native wards, and an isolation ward; there is a resident medical officer in charge of it. There is a contagious diseases hospital situate two miles from Bathurst. The medical establishment of the colony consists of a senior medical officer and four other medical officers. Of these the senior medical officer and two others are resident in Bathurst, the fourth is stationed at McCarthy Island, and the fifth is a travelling Protectorate medical officer. There are four European nursing sisters attached to the Victoria Hospital, with a staff of native dispensers, dressers, and nurses. The total number of admissions to the Victoria Hospital was 588, compared with 669 in 1910; the decrease is attributed to the increased use of quinine and better sanitation. The number of new cases treated in the out-patient department was 7255. Of the 49 deaths in hospital, 9 were from yellow fever, 2 from blackwater fever, 2 from trypanosomiasis, 2 from tetanus, and 1 from tuberculosis.

## THE DANIEL BAUGH INSTITUTE OF ANATOMY, PHILADELPHIA.

LOOKING back at the dissecting-room as we remember it, and comparing it with the modern anatomical departments of the medical schools, the change that has taken place in the elaborate care of their construction, the cleanliness of their maintenance, and the completeness of their equipment is strikingly evident. In hospital luxuriousness the United States leads the way—possibly to the extent of unnecessary, and even undesirable, prodigality. We are not, therefore, taken by surprise at the description of the new "Daniel Baugh Institute of Anatomy of the Jefferson Medical College of Philadelphia," presented to the College nearly a year ago at a cost of $150,000 by the gentleman whose name it bears, as detailed in an illustrated pamphlet which has recently reached us through the courtesy of Dr. W. W. Keen. From this pamphlet we learn that in the basement is the "cadaver box" for the cold storage of subjects, that it is 60 feet long, 20 feet wide, and 9 feet high. Communicating with it is a "preparation room," provided with tables, air-compressor, gravity injection apparatus, appliances for making the injecting fluids, and macerating tanks fitted with steam coils, an incinerator, a steam boiler for heating, a hot water generator, a water-supply pump, and the usual storage places. Two prosecting rooms are attached, having three tables each. On the first floor are the professor's office and chart room, the library and staff room—all, judging from the

illustrations, very handsomely furnished—a museum 60 feet by 20 feet, lavatories and lockers. The second floor contains a fine laboratory, 100 feet by 20 feet, for practical work in histology, embryology, and visceral work in anatomy as it is treated from biological view-points. It is fitted with Albarene tables for 60 students, affording each student a table top 36 × 30 inches. Between each pair of students is a two-way gas cock for Bunsen burners, an electric light with a d'Olier reflector, and a wire waste basket, and each student is provided with a full histological equipment, including microscopes. On this floor is also the research room for the pursuit of advanced researches in various fields, excluding morphological study on the brain, which is carried on in the Professor's private laboratory on the same floor, a fireproof incubating room and imbedding chamber, a storage room, the janitor's and the bone room, containing for loan to the student full sets of bones in a mahogany case. The third floor contains the dissecting-room, 155 feet in length, divided by a corridor into two rows of white-enamelled rooms separated by partitions, each room holding comfortably three or four tables, and fitted with special electric lighting. The asphalt floors are drained to permit of flushing. The eight rooms on one side are dissecting rooms, four on the other are demonstrating rooms with a large northerly skylight for demonstration of anatomy and post-mortem technique. A study collection room, an equivalent of the German "Lernsammlung," for leisurely examination of moist specimens, completes this floor. The amphitheatres are two in number; the lower seats 160 students and is fitted with a fireproof "projectoscope" box containing a Balopticon apparatus, and with a screen. The upper one seats 188. The seats in each case are fitted with armrests for note-taking. Finally, at the top of the building is a commodious operative surgery room with 18 tables for practice in operative surgery on the cadaver. There are ample precautions in case of fire, and ventilation is effected by galvanised ducts and Giroud fans, capable of exhausting 600,000 cubic feet of air an hour. The only point to which, we imagine, general exception would be taken in this country is that the heating plant is "designed to maintain a temperature of 70° F."

## AN INCOME-TAX WARNING.

*To the Editor of* THE LANCET.

SIR,—May I again draw your readers' attention to the fact that all claims to be assessed at the lower rates of income-tax in respect of the earned income should be sent in before Sept. 30th. Failure to comply with this regulation will result in their being taxed at the full rate of 1s. 2*d.* in the £. It is only in very extenuating circumstances that the Inland Revenue authorities depart from this rule. In order that this relief may be claimed page 3 of the Return Form No. 11 should be completed.

In cases where the exact income which will accrue between April 6th, 1912, and April 5th, 1913, is not known, or where it is possible that any earned income will be received between Sept. 30th and April 5th, Form No. 38 H should be completed, claiming the benefit of the earned rate, which is extended to all incomes not exceeding £3000 per annum.

I am, Sir, yours faithfully,

THE INCOME-TAX RECLAMATION ASSOCIATION, LIMITED.
WILFRED T. FRY, Secretary.

37, Queen Victoria-street, London, E.C., Sept. 4th, 1912.

## A USEFUL PAMPHLET ON TUBERCULOSIS.

WE have received a pamphlet by "A Birmingham Physician" on "The Problem of Consumption," which gives for 1*d.* a summary of the salient information in the possession of the medical profession in a way that is likely to be comprehended by the public. The part of the Insurance Act relating to the organised attack that is to be made on this disease is largely removed from the region of controversy; and we can imagine no better pamphlet to educate the public broadcast as to what tuberculosis really is, to what extent it prevails in the world, the ravages it causes and their economic cost to the State, how it is spread, how it can be avoided, and how cured. The plans and methods in use for bringing the disease under control are ably described in brief. An appendix contains valuable information on a dietary for consumptives. The pamphlet is published by Headley Brothers, of Bishopsgate, E.C.

## THE FALKLAND ISLANDS.

IT appears from the Blue-book for 1911, recently received at the Colonial Office, that the population of the Falkland Islands (including South Georgia) is now 3275, as compared with 1553 in 1881. The birth-rate for the year was 17·91 per 1000 and the death-rate 6·48 per 1000. The total rainfall during the year was 37·06 inches. On the East Falkland the winter was very wet, with little sunshine or frost, and diarrhœa was common in Stanley. On the other hand, the almost total absence of this disease on the West Falkland and the general improvement in public health on that island were probably associated with a higher mean winter temperature and a lower rainfall. There was an outbreak of German measles in Stanley, which probably affected 50 per cent. of the houses in the settlement. Five cases of beri-beri were imported by a whaler and a Canadian sealer. There were four cases of insanity (one due to alcohol) in East Falkland, a large number in a population of 1600; three of the cases were sent to England. Considerable improvement is reported in personal hygiene and also in the greater variety of food consumed on the West Falkland. The toothbrush is becoming a comparatively common object, and fish and vegetables are being added to the universal diet of mutton. During the summer "blue-bottle" flies invade many stations in large numbers. Although at present there is in the colony no serious disease of which they could act as carriers, they must be regarded as a potential danger, and steps should be taken to reduce their numbers. As means to this end strict cleanliness, including the destruction of garbage, and the protection of small birds are suggested, as the flies are reported to be absent from some detached islands on which birds are protected. The "blue-bottles" are said to have been introduced on the West Falkland by the steamship *Salembria* in 1878. The Victoria Cottage Home has been of great service. Twenty-six patients were admitted during the year, many of them from ships in harbour. The district nurse attended 44 cases and paid 842 visits. A King Edward Memorial Hospital is being built. It will contain accommodation for about 12 patients, medical and surgical wards, a maternity ward, and living rooms for patients and nurses.

## THE AUTHORSHIP OF THE NINETIETH PSALM.

*To the Editor of* THE LANCET.

SIR,—May I be permitted to point out a slight inaccuracy in the address of the learned President of the British Association, as published in THE LANCET of Sept. 7th, p. 685? David was not the author of all the Psalms contained in the book of that name, and Psalm 90, which describes the normal period of life as "threescore years and ten," has its authorship distinctly ascribed to Moses, not David.

I am, Sir, yours faithfully,

Sept. 10th, 1912. E. M. F.

**** The 90th Psalm is "A Prayer of Moses, the man of God," but can quite properly be regarded as a poem written taking a probable prayer of Moses as its theme. Certainly some theological critics hold this view. The "Encyclopædia Britannica," eleventh edition, vol. xxii., p. 538, states: "The only possible question for the critic is ..... or whether we have in some at least of these titles an example of the habit so common in later Jewish literature of writing in the name of ancient worthies. In the case of Ps. xc. it can hardly be doubted that this is the real explanation. ..... ."—ED. L.

## MEDICAL AID TO THE WOMEN OF INDIA.

IT is now more than a quarter of a century since the Dowager Marchioness of Dufferin inaugurated the association for supplying female medical aid to the women of India. The twenty-seventh annual report, relating to the year 1911, shows that steady progress in the work has been maintained; 310,717 women have been treated in hospitals mainly controlled and supported by the Dufferin Fund, and 397,109 in hospitals supported from other sources, but assisted by the Fund. In addition to this work the association is supporting to a greater or less extent 90 female students of medicine in various medical schools and colleges throughout the country. It is stated that there are now 56 medical women of the first grade practising in India, 92 female assistant surgeons, and 342 female hospital assistants; while 586 women are at the present time studying medicine or undergoing training for the nursing profession in various colleges, schools, and hospitals in the different provinces.

A cursory inspection of the account of work done in various parts of India would lead one to the belief that the particular need for the services of women in rendering medical aid of a professional character (as distinct from nursing ministration) to the female population has now become recognised, and that efforts on a considerable scale have been made to supply a body of trained women doctors for this purpose; though no one would claim to assert that everything has been done that could be done, supposing unlimited financial resource had been available. These efforts of a quasi-official character on the part of the Indian authorities have not, however, met with the approval of some of the foremost female members of the medical profession, both at home and in India; and a proposal was put forward at the end of 1910 by Dr. Mary Scharlieb, Dr. Mary Thorne, Dr. M. Annette Benson, and Mrs. Emma Slater, for the establishment of a Women's Indian Medical Service. This was to consist of a Superior and an Inferior service, the former consisting of women civil surgeons, admitted by selection, and arranged in three or four grades on collateral lines with the existing Indian Medical Service; and the latter being admitted by examination. The ideal was to be the establishment of a hospital for women in every district, corresponding to the existing civil hospitals, and to be in charge of a medical woman with status and pay similar to those of the existing civil surgeons. The details of the scheme were to be worked out in India by a provisional committee, on which medical women should be well represented.

The promoters of this scheme were not satisfied with the work of the Dufferin Fund, considering that, amongst other things, its organisation was defective, that it did not meet the present requirements of

the country, and that the appointments offered and conditions of service did not attract competent medical women. The Secretary of State, being of opinion that the proposals that have just been referred to could hardly be carried out without considerable interference with the existing civil medical administration, and were for many reasons, financial and otherwise, impracticable, suggested, in a dispatch to the Viceroy, that the organisation of the Dufferin Fund might be inquired into with advantage, with a view to possible improvements in methods of working. A subcommittee was appointed to consider fully the situation, which reported that the present provision for female medical aid is "totally inadequate and unsatisfactory," and submitted, with certain modifications, a scheme drawn up by Sir C. P. Lukis, the Director-General of the Indian Medical Service. This scheme provides for the staffing of 43 major and 51 minor hospitals, and proposes an establishment of 50 lady doctors of the first grade and 60 lady assistant surgeons; the pay of the former would be 400 rupees a month, rising to 500, and of the latter 100 rupees, rising to 300. The total cost would be 432,000 rupees per annum—that is, about 300,000 rupees in addition to present disbursements. It is considered that there are strong grounds for giving further assistance to the Fund on a liberal scale, and that the local provincial governments should be asked to contribute. It appears, therefore, that there is a general agreement as to the necessity of improving the position of medical women in India, and of increasing the numbers entrusted with important charges. It is thought, however, that the responsibility for the financial control of institutions, plans for new buildings, &c., should, as a rule, rest with civil surgeons as at present.

There are many difficulties in the way of the complete independence of a Women's Medical Service in India, and although there is no doubt that the whole trend of informed opinion, official as well as non-official, is in the direction of giving considerably increased power and responsibility to the medical woman, this extension and enlargement must be a matter of time; it must take place gradually, step by step, if it is to be permanent and beneficial. If such a policy be adopted we have little doubt that the improvement will be continuous, and that a very great increase in the numbers of the female members of the profession will result for work in this vast field. This will lead to an improvement in the health and well-being of the female population of our Indian dominions that is simply incalculable. At the present time the condition of thousands of *purdah* women, debarred by their religious belief from obtaining male medical treatment, and so far with no female medical aid available, is deplorable. Nothing can alleviate their misery but a greatly increased provision of women doctors, a measure already delayed too long.

### TURTLE FARMING.

On account of the frequency with which turtle soup is ordered for patients it may be of some medical interest to note that in the Seychelles Islands experiments are being made in the rearing of young turtles from the egg in enclosed areas, where they are found to grow more rapidly than in the open sea. These islands are a British possession in the Indian Ocean, and turtles are abundant in the surrounding sea, 400 having been sent during the year 1911 to the market at Victoria, a town in Mahé, a large island of the group. In his recently issued report to the Secretary of State for the Colonies on the events of the year 1911, the governor of the Seychelles says that the Government has advanced on easy terms the capital required for these experiments, and he thinks it likely that the venture may prove successful. He remarks that although the number of turtles captured each year is variable the average quantity of tortoiseshell obtained shows no diminution. Over a ton of tortoiseshell, valued at 41,597 rupees, was exported to London and Paris in 1911, but edible products from the same source are only represented by five casks of salted turtle valued at 463 rupees.

### A DIARY OF CONGRESSES.

We shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced for September and October:—

May to October (London, Earl's Court).—Shakespeare's England.
Sept. 15th–21st (Münster).—Eighty-fourth Meeting of the German Association of Scientists and Medical Practitioners.
,, 19th and 20th (Birmingham).—British Hospitals Association, Third Annual Conference.
,, 23rd–25th (Toulouse).—"Cold" Congress. (Cold Storage and Cryologic Methods.)
,, 23rd–28th (Washington, D.C.).—Fifteenth International Congress on Hygiene and Demography.
,, 24th–27th (Detroit).—Fourteenth Annual Meeting of the American Hospital Association.
,, 27th–29th (Hamburg).—Sixth Annual Meeting of the German Society of Specialists in Nerve Diseases.
,, 30th–Oct. 4th (London, Royal Horticultural Hall).—Eighth London Medical Exhibition.
September (Toronto).—Second Annual Meeting, Canadian Public Health Association.
,, or October (Perth, Western Australia).—(Three days.) Health Congress.
Oct. 3rd and 4th (Columbia, South Carolina).—National Conference on Pellagra.
,, 3rd–8th (Prague).—Sixth International Congress of Radiology and Medical Electrology.
,, 9th–12th (New York).—Electrical Exposition and Automobile Show.
,, 10th–12th (Paris).—Sixteenth Session of the French Association of Urology.
,, 10th–13th (Meran).—Seventh Austrian Congress of Balneologists.
,, 13th–16th (Paris).—Thirteenth French Congress of Medicine.
,, 16th–21st (Rome).—International Congress on the History of Art.
,, 17th–23rd (Paris).—First International Congress of Comparative Pathology.
,, 24th–27th (Rome).—Fourth International Congress of Physical Education.
,, 29th–Nov. 2nd (London, Royal Horticultural Hall).—Twenty-third Universal Cookery and Food Exhibition.

In 1913:—
(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.
April 26th (Ghent) (opens).—International Exhibition.
Aug. 6th–12th.—(London).—Seventeenth International Congress of Medicine.
,, 22nd–28th (Cambridge).—International Mathematical Congress.
Sept. 22nd–28th (Milan).—Fourteenth International Anti-alcoholic Congress
September (Birmingham).—British Association.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)
(London).—International Historical Congress.
(Chicago).—Congress of the International Association of Refrigeration.
(Washington).—Congress of American Physicians and Surgeons.
(Paris).—Congress of Physical Education.
(Paris).—Congress of the Royal Institute of Public Health.
(Buffalo).—Fourth International Congress of School Hygiene.

In 1914:—
(Vienna).—Third International Congress for Professional Diseases.
(Auckland, N.Z.).—Australasian Medical Congress.
(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.
(Washington, D.C.).—International Congress of Americanists.
(London).—International Dental Congress.
(Paris).—Fourth International Medical Congress on Industrial Accidents.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

# Medical Diary for the ensuing Week.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

MONDAY.—2.15 P.M., Demonstration in Clinical Medicine:—Dr. Wall: Diseases of the Pleura.

TUESDAY.—2.15 P.M., Demonstration in Clinical Medicine:—Dr. Grünbaum: Diseases giving rise to Morbid Renal Excretion.

WEDNESDAY.—2.15 P.M., Demonstration in Clinical Medicine:—Dr. Hutchison: Diseases of Children.

THURSDAY.—2.15 P.M., Demonstration in Clinical Medicine:—Dr. Thompson: Diseases of the Nervous System.

FRIDAY.—2.15 P.M., Demonstration in Clinical Medicine:—Dr. L. Smith: Diseases of the Heart.

## OPERATIONS.

METROPOLITAN HOSPITALS.

**MONDAY (16th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**TUESDAY (17th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

**WEDNESDAY (18th).**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**THURSDAY (19th).**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M. Aural and Ophthalmic), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M).

**FRIDAY (20th).**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

**SATURDAY (21st).**—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.) the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

## EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial Staff. It is urgently necessary that attention should be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.*

*Lectures, original articles, and reports should be written on one side of the paper only,* AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1912, which was completed with the issue of June 29th, were given in THE LANCET of July 6th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1912 are now ready. Bound in cloth, gilt lettered, price 16*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, Sept. 11th, 1912.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rainfall. | Solar Radio in Vacuo. | Maximum Temp. Shade | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| Sept. 5 | 30·03 | N.W. | ... | 109 | 62 | 50 | 50 | 55 | Fine |
| ,, 6 | 29·93 | N.W. | ... | 107 | 61 | 48 | 49 | 52 | Fine |
| ,, 7 | 30·15 | N.W. | ... | 107 | 65 | 47 | 49 | 53 | Fine |
| ,, 8 | 30·16 | N. | ... | 104 | 67 | 50 | 55 | 60 | Fine |
| ,, 9 | 30·20 | N. | ... | 97 | 57 | 49 | 46 | 51 | Fine |
| ,, 10 | 30·08 | N.W. | ... | 75 | 56 | 46 | 47 | 50 | Overcast |
| ,, 11 | 30·05 | N.W. | ... | 75 | 54 | 46 | 45 | 48 | Overcast |

**The following journals, magazines, &c., have been received.**—Public Health, Calcutta Medical Journal, Indian Medical Journal, Journal of the Royal Army Medical Corps, Journal of Nervous and Mental Diseases, Archives of Pediatrics, Illinois State Board of Health Monthly Bulletin, American Journal of Medical Sciences, Monthly Cyclopedia, Canadian Journal of Medicine and Surgery, British Journal of Children's Diseases, Revue de Gynécologie, Maryland Medical Journal, American Journal of Clinical Medicine.

## Communications, Letters, &c., have been received from—

A.—Dr. J. L. Atlee, Lancaster, U.S.A.; Mr. R. J. Albery, Lond.; Dr. N. Alexereff, Kimeltei, Siberia; Messrs. Arnold and Son, Lond.; A. E. S.; Atomo Tobacco Co., Lond.

B.—Dr. Dudley Buxton, Llanbedr; Dr. Broughton-Alcock, Paris; Mr. W. G. Burcombe, Lincoln; Dr. G. Blacker, Lond.; Dr. T. Brushfield, Lond.; Mr. H. W. Bayly, Lond.; Mr. A. Benthall, Lond.; Messrs. F. W. Berk and Co., Lond.; Messrs. Burroughs Wellcome and Co., Lond.; Bureau of Health, Manila; Birmingham University Medical Faculty, Clerk to; Bethlem Royal Hospital, Lond., Medical Superintendent of; British Organotherapy Co., Lond.; Bedford County Hospital, Secretary of; Brompton Motor Co., Lond.; Bolton Infirmary and Dispensary, Secretary of; Borough Hospital, Birkenhead, Secretary of; Birmingham, &c., Hospital for Sick Children, Secretary of; British Hospitals Association, Birmingham, Local Conference Secretary of.

C.—Dr. H. Campbell, Lond.; Dr. Carey Coombs, Clifton; Mrs. Carey, East Bergholt; Messrs. James Clarke and Co., Lond.; Messrs. Corbyn, Stacey and Co., Lond.; Coventry and Warwickshire Hospital, Secretary of; Cheltenham General Hospital, Secretary of; Chicago School of Sanitary Instruction, Chicago; Messrs. J. and A. Churchill, Lond.; Chesterfield Hospital, Secretary of; Mr. H. A. Collins, Croydon; Coton Hill Hospital, Stafford, Clerk to the; Cambridge University Press, Lond.; Mr. J. Chronnell, Hindley.

D.—Dr. A. Duncan, Lond.; Mr. C. Diamond, Lond.; Mr. Chhail Behari Lall Dina, Kekri; Messrs. Dulau and Co., Lond.; *Dumfries and Galloway Standard*, Proprietors of; Dispenser, Lond.; Davis Gas Stove Co., Lond.; Mr. A. J. Davy, Lond.

E.—E. W. J. L.

F.—Messrs. R. Friedländer und Sohn, Berlin; Messrs. Fannin and Co., Dublin; Factories, Chief Inspector of, Lond.; Mr. F. W. FitzSimons, Port Elizabeth; Miss E. M. Farrer, Lond.

G.—Dr. Margaret E. Rutherford, Greenock; Dr. L. Guthrie, Lond.; Dr. A. M. Glass, Booneville, U.S.A.; Dr. E. M. Garstang, Bolton; Dr. H. H. Greenwood, Leeds; Mr. H. J. Glaisher, Lond.; Grahame-White Aviation Co., Lond.; Glasgow, Chief Sanitary Inspector of; Garden Cities and Town Planning Association, Lond., Secretary of; Glasgow Maternity and Women's Hospital, House Superintendent and Cashier of; Messrs. Griffin and Co., Lond.; Guest Hospital, Dudley, Secretary of.

H.—Dr. John Hadden, Denholm; Dr. A. Haslewood, Buxton; Dr. B. K. Hait, Midnapur; Mr. J. Warrington Haward, Berkhamsted; Mr. P. Harper, Lond.; Mr. Fred Hanley, Manchester; Mr. C. A. Hoefftcke, Lond.; Mr. Bernard F. Hartzhorne, Lond.; Mr. N. Bishop Harman, Lond.; Mr. H. Hutchinson, East Ham; Messrs. Harrison and Sons, Lond.; Messrs. Haasenstein and Vogler, Geneva.

I.—Ingham Infirmary, South Shields, Secretary of; Incorporated Institute of Hygiene, Lond., Secretary of; Mr. John P. Ingram, Rathgar.

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